Personality and content preferences on social network sites in South Africa

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ABSTRACT

Worldwide, visual content, such as photos and videos, have increased dramatically on social network sites (SNS), with South Africa being no exception. Due to these developments, marketers are increasingly interested in the factors that impact the usage of these sites, in order to develop branded content that will attract and engage users. However, there is a lack of academic research revealing how individual consumer factors, such as personality, influence SNS users' preferences for different types of content on SNS, particularly within an emerging market such as South Africa.

The purpose of this study was to investigate the relationship between two personality traits – need for cognition (NFC) and need for affect (NFA) – and visual and verbal content preference on SNS in South Africa. The study also briefly examined whether demographic variables (gender and age) and SNS usage factors had an impact on the relationships between these variables.

An online survey and pen-and-paper questionnaire were conducted. 307 social network site users were obtained primarily from two South African universities through convenience sampling. Data was analysed using correlation analysis, analysis of variance (ANOVA) and standard multiple linear regression on SPSS.

The main findings showed that personality does have an influence (albeit small) on SNS users' preference for visual or verbal content, and warrants consideration by marketing organisations in the design of SNS content. Visual content preference on SNS was found to have a positive relationship with NFA and a negative relationship with NFC. Verbal content preference had a positive relationship with NFC but no significant relationship with NFA. Demographic and SNS usage variables showed mixed results in their impact on SNS content preference. It was recommended that future studies include other variables that could affect SNS content preference, as well as use more objective measures (rather than self-reporting) to determine SNS users' actual behaviour.

Key words: Social network sites, personality traits, need for cognition, need for affect, visual content, verbal content, South Africa, emerging market

DECLARATION

I, Kambe Mwaba, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Strategic Marketing in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Signed at ……

On the …….. day of …… 20…..

DEDICATION AND ACKNOWLEDGEMENTS

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CHAPTER 1. INTRODUCTION

This chapter introduces the key themes contained in the entire study in terms of – the purpose of the study (1.1), the context of the study (1.2), the problem statement (1.3), research questions (1.4), research objectives (1.5), the research gap and justification of the study (1.6), the significance of the study (1.7), delimitations (1.8), definitions of terms (1.9), assumptions (Section 1.10) and report structure (1.11).

1.1 Purpose of the study

The purpose of this study is to investigate the relationship between personality traits (need for cognition and need for affect) and content preferences (visual and verbal content preference) on social network sites (SNS) in South Africa. There is currently a dearth of scientific studies focusing on understanding how individual consumer factors, such as personality, influence user preferences and behaviour on SNS. In addition, the few current studies that have explored this field have mainly been conducted in developed countries like the United States of America, with very little research conducted within an emerging market such as South Africa, which is progressing towards and has some characteristics of a developed market, but is still considered to be developing.

This study therefore intends to contribute to an academic body on SNS research that is still at its early stage, particularly within an emerging market such as South Africa. In addition, from a practical perspective, this study could provide relevant marketing applications for companies in the development and selection of content on SNS that will be engaging with their consumers.

1.2 Context of the study

As marketers increasingly integrate social network sites (SNS) as a key promotional tool in the marketing mix, thorough exploration of the factors that impact consumers' usage of these sites is becoming essential (Mangold & Faulds, 2009). Recently, there has been a rise in visually-dominated content on

SNS (Allen, Woodward, & Lamp, 2012). The online landscape has become more content rich, and every day, millions of photos and videos are uploaded on SNS such as Facebook, Instagram, Twitter and Pinterest (Meeker & Wu, 2013). In addition, according to Cooper (2013), posts on Facebook that include a photograph have been shown to have higher engagement (for example, 53% more "likes" and 104% more comments) than a typical post that only includes text. As a result, companies are starting to see the opportunity of sharing content on SNS that is more visually-oriented and less text based in order to attract the attention of potential consumers (Brennick, 2014; Leposa, 2013) and engage with them through compelling, visual storytelling (Allen et al., 2012).

Recently in South Africa, the fastest growing SNS are visually-based platforms. For instance, one of the greatest growth rates in SNS users in 2014 was for Instagram, a photo-sharing mobile application (Instagram, 2015a), which experienced a 65% increase in users (World Wide Worx & Fuseware, 2014b). Commenting on this trend, Arthur Goldstuck, the Managing Director of technology research and strategy organisation, World Wide Worx, said that "We're seeing the beginning of the visual revolution in online usage in South Africa" (World Wide Worx & Fuseware, 2015, p. 3).

In investigating consumer behaviour, a significant amount of academic research has been conducted to explore individual's preferences for visual or verbal information (Arcand & Nantel, 2012; Kim & Lennon, 2008; Mendelson & Thorson, 2004; Townsend & Kahn, 2014). In advertising for example, when evaluating the same advertisement, studies have shown that a consumer that prefers verbal information would process the words in the advertisement, while a consumer that prefers visual information would process the images (Bone & Ellen, 1992; McQuarrie & Mick, 2003; Mitchell, 1986; Sojka & Giese, 2006). Therefore, although they are exposed to the same advertisement, their responses to the components of the advert (in terms of advertisement recall, purchase intention, etc.) would differ according to their preference for visual or verbal information (Bone & Ellen, 1992; McQuarrie & Mick, 2003; Mitchell, 1986; Sojka & Giese, 2006).

Despite extensive research, an examination of the literature shows that there is a dearth of research on consumer factors that influence preference for a particular type of information processing (visual versus verbal) within the SNS context. Recent studies have indicated that personality traits show the most promise in predicting and understanding SNS usage differences, given that SNS enables interpersonal interaction (Amichai-Hamburger & Vinitzky, 2010; Chu & Kim, 2011; Correa, Hinsley, & De Zuniga, 2010; Gangadharbatla, 2008; Hughes, Rowe, Batey, & Lee, 2012; Ross et al., 2009; Seidman, 2013; Zhong, Hardin, & Sun, 2011). By definition, a trait is a distinctive, relatively durable way in which an individual differs from another (Guilford, 1959). Two particular personality traits – the need for cognition (NFC) and need for affect (NFA) – show particular potential for explaining information processing preference in this study (Sojka & Giese, 2001, 2006).

This study therefore explored whether the "visual revolution" trend observed in SNS (Allen et al., 2012; Brennick, 2014; Leposa, 2013; World Wide Worx & Fuseware, 2014b) is related to these particular personality traits (NFC and NFA). Determining the relationship between these variables in a SNS context may contribute to the theoretical understanding of these variables in a new media sphere, as well as provide relevant applications for marketing practice.

1.3 Problem statement

1.3.1 *Main problem*

To investigate the relationship between personality traits (need for cognition and need for affect) and content preferences (visual and verbal) on social network sites (SNS) in South Africa.

This research problem stems from the current lack of academic studies examining the relationship between individual characteristics (such as personality traits) and preferences for various aspects of SNS (such as content). The few existing studies in this field have mainly been conducted in developed countries such as the USA e.g. (Muscanell & Guadagno, 2012;

Zhong et al., 2011). A dearth of research has been conducted to explore this phenomenon in South Africa, which as an emerging market is uniquely poised to add to the body of knowledge, given that it has characteristics of both a developed and developing country combined (Schoeman, 2000).

1.3.2 *Sub-problems*

The first sub-problem is to investigate the relationship between personality traits (need for cognition and need for affect) and visual content preference on SNS in South Africa

The second sub-problem is to investigate the relationship between personality traits (need for cognition and need for affect) and verbal content preference on SNS in South Africa

1.4 Research questions

Based on the sub-problems above, the research questions of the study are outlined as follows:

1.4.1 *Sub-problem 1: Research questions*

1. What is the relationship between need for affect (NFA) and visual content preference on SNS in South Africa?
2. What is the relationship between need for cognition (NFC) and visual content preference on SNS in South Africa?

1.4.2 *Sub-problem 2: Research questions*

1. What is the relationship between need for cognition (NFC) and verbal content preference on SNS in South Africa?
2. What is the relationship between need for affect (NFA) and verbal content preference on SNS in South Africa?

1.5 Research Objectives

This study aims to achieve the following theoretical and empirical research objectives:

1.5.1 *Theoretical Objectives*

- To review literature on need for cognition (NFC);
- To review literature on need for affect (NFA);
- To review literature on visual and verbal information processing preference;
- To review literature on social network sites (growth and definition, usage in South Africa, content opportunities and challenges, interaction with personality, etc.)

1.5.2 *Empirical Objectives*

- To investigate the relationship between NFA and visual content preference on SNS in South Africa
- To investigate the relationship between NFC and visual content preference on SNS in South Africa
- To investigate the relationship between NFA and verbal content preference on SNS in South Africa
- To investigate the relationship between NFC and verbal content preference on SNS in South Africa

1.6 Research gap and justification of the study

An extensive literature examination indicates that there has been little research conducted on consumer factors (such as personality traits) that influence SNS usage and preferences (such as verbal or visual content). Academic literature on SNS is still growing, and has mainly been conducted in North America, e.g. (Muscanell & Guadagno, 2012; Ross et al., 2009; Zhong et al., 2011). As mentioned, very little academic research has been conducted to explore this

trend within an emerging market, such as South Africa, that has characteristics of both a developed and developing country combined (Schoeman, 2000).

Prior research that has examined the effect that personality traits and information processing preferences (visual versus verbal) have generally been conducted within the context of traditional above-the-line advertising, such as print media and television (Darley, 1999; McQuarrie & Mick, 2003; Mendelson & Thorson, 2004; Mitchell, 1986; Sojka & Giese, 2006). As yet, however, no studies have examined this phenomenon in newer media contexts, such as SNS. Therefore, from a theoretical perspective, identifying the interrelationship of these variables in this context could add to the body of knowledge in consumer behaviour.

Finally, in practical terms, the results of this study may provide insights to marketers regarding the design of marketing campaigns and content for SNS that are more likely to be processed and engaged with, because the format is consistent with the individual's personality traits and processing preferences.

1.7 Significance of the study

For over five years, marketing studies have proposed the efficacy of using social network sites for marketing reasons (Amichai-Hamburger & Vinitzky, 2010; Clemons, Barnett, & Appadurai, 2007; Waters, Burnett, Lamm, & Lucas, 2009). Given the opportunities that SNS provide for online branding and engagement (Cvijikj & Michahelles, 2013), marketing spending on these platforms have grown tremendously (Chu & Kim, 2011; Michaelidou, Siamagka, & Christodoulides, 2011), with an estimated $23.68 billion being spent on paid media on social networks in 2015, representing an annual increase of 33.5% (eMarketer, 2015).

In South Africa, for instance, over 90% of the largest brands in the country use Twitter and Facebook, and just over half (51%) reportedly planned to increase their social media budgets in 2015, with resources mainly being focused on content marketing and multimedia content (World Wide Worx & Fuseware, 2014b).

The growth of SNS for marketing and business therefore highlights the importance of establishing an understanding of SNS and how characteristics, such as personality traits, influence user behaviour and preferences on these sites (Amichai-Hamburger & Vinitzky, 2010). Therefore, this study may provide guidance to marketing practioners in the terms of growing their SNS audience and increasing levels of interaction through the selection of their branded content on SNS, based on understanding of consumer factors such as personality traits. In addition, the current research may assist in the formulation and implementation of segmentation strategies, based on providing points of consideration of how their target markets engage with visual and verbal information on SNS.

1.8 Delimitations of the study

This study was delimited to the following:

- The SNS context of this research referred to web or mobile based platforms such as Facebook, Twitter, Instagram, Pinterest and LinkedIn, and excluded free instant messaging applications such as WhatsApp and Mxit.
- The study was not focused on any particular social network site in terms of content preference, but broadly examined the general style or manner that users engage with various types of content across all the social network sites that they use.
- Content was not examined in the context of branded or promotional content from an organisation or company on SNS but any articles or posts that a user engages with on SNS (i.e. personal or commercial).

1.9 Definition of terms

For this study, there are four important terms that require definition:

Content – for this study, “content” is adapted from the description of “information” as per Sojka and Giese (2001), as stimuli data that can be presented in both verbal (words or text) or visual (picture or video) format, on social network sites (SNS).

Need for affect (NFA) – is conceptualised as the complementary concept to NFC, and describes an individual’s propensity to engage in and enjoy processing feelings. Individuals with high NFA are more likely to approach emotion-inducing experiences than low NFA individuals, who are more likely to avoid those situations (Maio & Esses, 2001).

Need for cognition (NFC) – is defined as an individual’s propensity to engage in and enjoy thinking (Engel, Blackwell, & Miniard, 1995). Individuals with a high NFC inherently like the challenge of cognitively demanding activities and are more likely to seek out knowledge than low NFC individuals (Cacioppo & Petty, 1982).

Social network sites (SNS) – These are defined as web-based services allowing individuals to (1) create a public (or partially public) profile within a confined system, (2) formulate a list of other users with whom a connection is shared, and (3) view and navigate their list of connections and those made by others within the system (Ellison, 2007).

1.10 Assumptions

- Respondents agreed to answer interview survey questions honestly and accurately
- Respondents reflected normal perspectives and had sufficient experience to answer the questions
- Respondents were regular users (once a month or more often) of at least one SNS, specifically Facebook, Twitter, Instagram, LinkedIn or Pinterest.

1.11 Report structure

This report is divided into six chapters, as outlined below:

Chapter 1 (Introduction) gives an overview of the entire study in terms of key themes is contained in this report, including – the purpose of the study (1.1), the context and background (1.2), the problem statement (1.3), research questions (1.4) and research objectives (1.5), research gap and justification (1.6), significance of the study (1.7), delimitations (1.8), definitions of terms (1.9), assumptions (1.10) and concludes with the report structure (1.11)

Chapter 2 (Literature review) is a scholarly review of the theoretical concepts and research variables used in the study. The conceptualisation of the research model and hypothesised relationships is also included in this chapter.

Chapter 3 (Methodology) outlines the procedure through which the research was conducted, in terms of the paradigmatic orientation and strategy of the research (3.1), research design (3.2), population and sample (3.3), research instrument (3.4), data collection procedure (3.5) pilot research (3.6), data analysis and interpretation process (3.7), as well as checks to provide assurance of the validity and reliability of the instruments to test the hypotheses (3.8).

Chapter 4 contains the presentation and description of the research findings and data analysis of the results. Following from this, Chapter 5 includes the interpretation and discussion of the results, particularly in relation to the literature review.

Finally, Chapter 6 contains the conclusions drawn from the research findings (6.2). In addition, recommendations (in terms of theoretical considerations and practical implications) (6.3), as well as the limitations of the study and suggested areas for future research (6.4), are offered in this chapter.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This study seeks to determine whether visual and verbal content preference on social network sites (SNS) in South Africa differs significantly according to particular personality traits (need for cognition and need for affect). To begin, this literature review chapter provides context on personality influences on consumer behaviour and the importance of personality traits and information processing preferences (in terms of visual and verbal information) as internal factors for consumer decision making (Section 2.2 to 2.4). Thereafter, key research findings are presented on SNS (Section 2.5), in terms the impact and growth of the different SNS platforms over the last few years worldwide and within South Africa. The subsequent challenges that have been presented to marketers in terms of SNS advertising fragmentation and different content formats available are also discussed, as well as current literature on the interaction of personality and SNS usage. Finally, an assessment of the impact that personality characteristics (NFC and NFA) have on visual (sub-problem 1) and verbal (sub-problem 2) preference in terms of content on SNS is hypothesised (Section 2.6 to 2.8).

2.2 Theoretical framework: Consumer behaviour and decision making factors

The process that any consumer experiences when making a purchase differs, however it is commonly accepted in consumer behaviour research that purchases consist of key decision phases (Solomon, Dahl, White, Zaichkowsky, & Polegato, 2014). Consumer decision-making models are widely used to understand the behaviour that consumers display in their selection from numerous alternatives, such as products, brands or ideas (Kassarjian, 1982) and answers questions pertaining to what, why, when, where and how consumers buy or use the purchase, how they evaluate their satisfaction and dispose of it after purchase, and whether their evaluation influences their

decisions in future (Bettman, Johnson, & Payne, 1991; Olshavsky & Granbois, 1979). These models provide a framework for organisations to better understand their customers, which could, in turn, assist with the development of strategies to better reach their target market and compete in the market overall (Engel et al., 1995).

Many of the widely-known models of consumer decision-making were established in the 1960's and 1970's, such as Engel et al. (1968), who developed a model to incorporate the array of factors and connections of several theories and constructs; and Howard (1977), who refined of the notion of habitual response behaviour.

More recently, the purchase decision process has been well encapsulated in the Model of Consumer Decision Making, described by Schiffman, Kanuk, and Wisenblit (2010), as depicted in Figure 1 overleaf. This model is designed to portray a holistic illustration of the process and interrelationships of important and complex components of consumer decision making. The cognitive, and to a lesser extent, the affective stages that the consumer proceeds through in purchasing decisions are reflected in the model (Schiffman et al., 2010). The model consists of three main phases: input, process and output as described below:

Input consists of external influences that affect the consumer's purchase decisions, specifically the marketing efforts of the company (such as promotion and price) and non-marketing influences from their sociocultural environment (e.g. culture, family, social class, etc.) (Schiffman et al., 2010).

The way in which consumers make purchase decisions is encapsulated in the process stage of the model. This is a three-fold process: need recognition, pre-purchase search and evaluation of alternatives. Included in this stage are internal consumer factors, such as past experiences and particularly psychological factors (including attitudes, personality, motivations, etc.), which have a significant effect in the process of decision making (Schiffman et al., 2010).

The output phase of the model focuses on two activities consumers undertake after making the final decision among the alternatives: the purchase itself (i.e. trial, repeat or long-term commitment) and the post-purchase evaluation in comparison to their expectations (i.e. feelings of neutrality, satisfaction or dissatisfaction) (Schiffman et al., 2010).

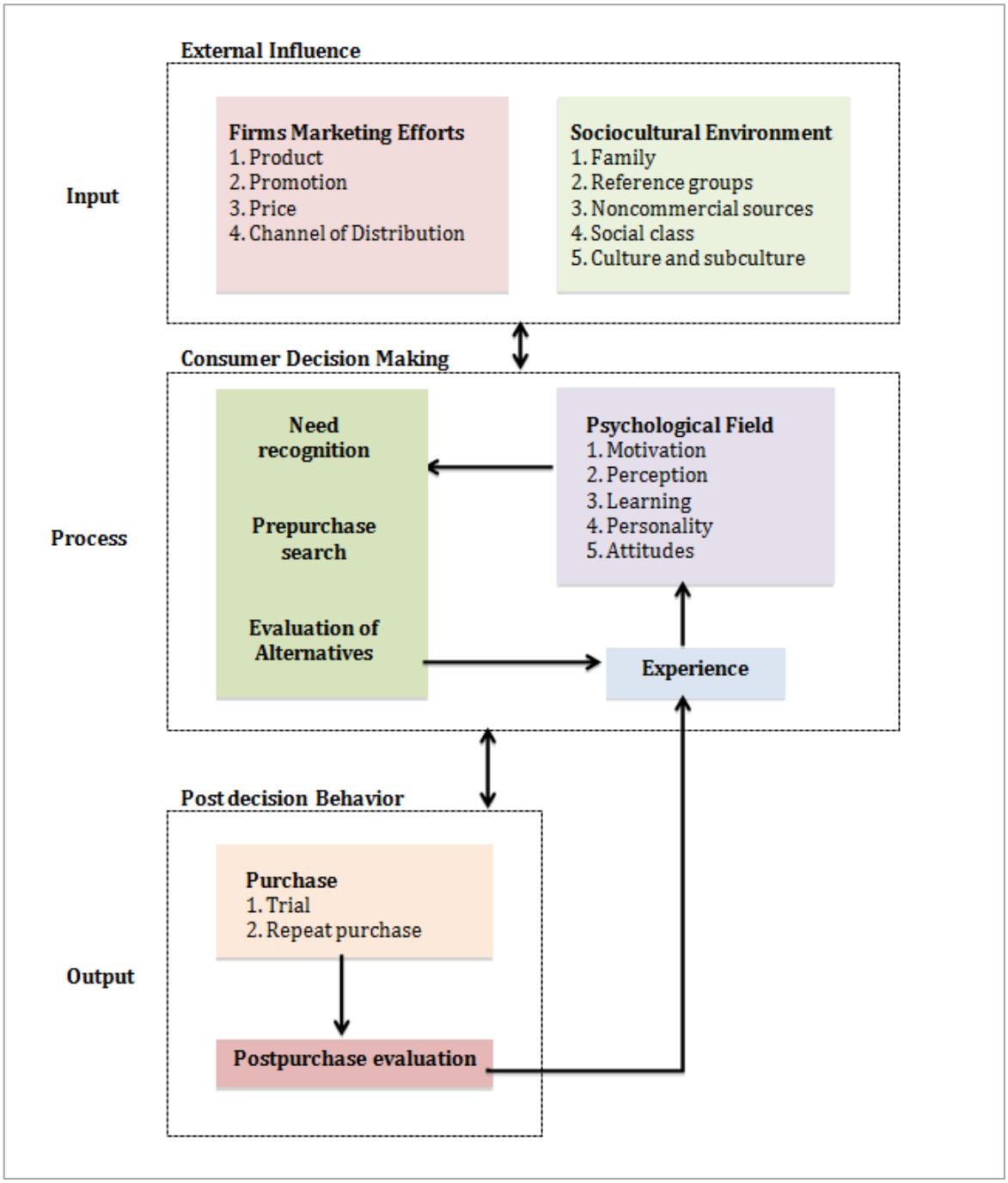


Figure 1: Model of Consumer Decision Making (Schiffman et al., 2010)

This study therefore focused on the process phase of the three components of the Model of Consumer Decision Making (Schiffman et. al., 2010), in terms of the internal influences which affect consumer purchase decisions - personality traits and motivational predispositions in terms of information processing preferences (visual and verbal content preference). To a lesser extent, this study also briefly examined the effect of some of the external influences in the input phase – specifically the sociocultural environment in terms of the demographic variables of the social network site users – however, the key focus of the research was on the influence of personality. In the consumer decision process, the impact of processing style personality traits has been demonstrated on the extent and type of information search e.g. (Cacioppo, Petty, Feinstein, & Jarvis, 1996), as discussed in the following sections.

2.3 Personality influences on consumer behaviour

For almost 60 years, social psychologists and consumer researchers have been fascinated by the concept of personality and how it influences consumer behaviour, given the belief that specific personality characteristics have an enduring effect on perception and behaviour (Haugtvedt, Petty, & Cacioppo, 1992; Kassarjian, 1971).

Major theorists have approached the study of personality in various ways. For instance, Freud's psychoanalytical theory of personality was built on the premise that unconscious drives, particularly sexual or other instinctual drives, combined with early childhood experiences, are at the heart of human motivation and personality (Freud, 1933). Neo-Freudian theorists, such as Alfred Adler and Harry Stack Sullivan, disagreed with Freud in terms of his assertion that personality is mainly biological in nature, and instead emphasised wider social and environmental influences (Birnbach, 1961). Other major theorists, such as Carl Jung, stressed personality as an integrated whole (Jung & Hull, 1957), whereas trait theorists, such as Digman (1990), focused on separate aspects of personality in terms of specific traits. As a result of these multiple viewpoints, it is difficult to reach a single definition of personality. However, of the main theories of personality, this research approached the

study of personality in the context of trait theory, given its focus on the measurement and relationship of specific individual characteristics, as described below.

Trait theory has played an important role in the study of the relationship between consumer behaviour and personality (Kassarjian, 1971). A “trait” by definition is a distinctive, relatively durable way in which an individual differs from another (Guilford, 1959). Trait theory is mainly founded in a quantitative or empirical orientation and focuses on the measurement of personality in terms of specific psychological characteristics (i.e. traits), on constructed personality tests (or inventories) that enable the identification of individual personality differences (Schiffman et al., 2010). For marketing, the importance of studying trait theory in relation to consumer behaviour is because traits are common to several individuals (Engel et al., 1995). In addition, traits have been shown to have a direct connection to how consumers make choices and to the specific purchase or consumption behaviour being explored (Chen, 2007; Fraj & Martinez, 2006; Kassarjian, 1971; Netemeyer, Burton, & Lichtenstein, 1995), particularly when interrelated with theoretical frameworks (Haugtvedt et al., 1992; Mercer, 1981).

Marketers are increasingly on the lookout for more effective ways to communicate with consumers. As new media forms develop, distinct psychological differences are emerging as key design criteria in fields such as advertising (Ruiz & Sicilia, 2004). Two particular traits – need for cognition (NFC) and need for affect (NFA) – have recently gained interest among consumer researchers and shown strong potential for understanding selected aspects of consumer behaviour (Haddock, Maio, Arnold, & Huskinson, 2008; Sojka & Giese, 2001, 2006). These exploratory studies have shown the usefulness of these personality traits in explaining visual and verbal information processing, as discussed in subsequent sections. For this study in particular, relating individual personality traits to identifiable information processing characteristics (such as visual or verbal content preferences on SNS) may add to current literature proving personality trait theory as a promising variable for

understanding, explaining, and predicting various aspects of consumer behaviour.

2.3.1 *Need for cognition (NFC)*

Need for cognition (NFC) is defined as a person's propensity to partake in and enjoy thinking (Engel et al., 1995). Individuals with a high NFC inherently like the challenge of cognitively demanding activities and are more likely to seek out knowledge than low NFC individuals (Cacioppo & Petty, 1982). When faced with a complex issue, people with a low NFC are more influenced by the opinions of others and rely on simple inferences and heuristic information, whereas people with high NFC prefer relying on information relevant to the issue and rely less on heuristics (Haugtvedt et al., 1992).

The concept of the need for cognition was develop by Cacioppo and Petty (1982) and it is measured on self-report items. It is conceptualised as a personality trait such that people do not have a 'need' in the conventional sense, but instead exhibit a constant intrinsic motivation to participate in mentally stimulating pursuits (Haugtvedt et al., 1992). In order to show the predictive validity of this construct, Cacioppo and Petty (1982) made respondents complete a number-circling exercise that used a set of rules that were either simple or complex. They discovered that individuals with a low NFC would rather do the exercise with simple rules whereas individuals with high NFC preferred the exercise with complex rules (Haddock et al., 2008). Subsequent research also indicated the high NFC individuals outperform low NFC individuals on cognitive activities such as solving anagrams (Baugh & Mason, 1986) and arithmetic problems (Dornic, Ekehammar, & Laaksonen, 1991).

In the past three decades since the inception of NFC, the concept has mainly been included in marketing and social psychology studies focused on its role and impact on persuasion, attitude formation and purchase intention (Haddock et al., 2008; Martin, Lang, Wong, & Martin, 2003; Polyorat, Alden, & Alden, 2005). In advertising research for instance, studies show that consumers who are high in this personality trait tend to respond to the part of the advert that

contains rich product-related information or description (Haugtvedt, Petty, Cacioppo, & Steidley, 1988) and tend to spend more time processing print advertisements, leading to better recall claim of the advertisement and brand (Peltier & Schibrowsky, 1994). In terms of online behaviour, NFC has been strongly linked to using the internet for activities that contain a cognitive element, such as to search for product information, obtain updates on current affairs, and for learning and education (Tuten & Bosnjak, 2001). Together these studies have aptly demonstrated the importance of taking into consideration the need for cognition for influencing consumer behaviour and in the design of persuasive messages.

2.3.2 *Need for affect (NFA)*

Need for affect (NFA), a relatively new construct that is conceptualised as the complementary concept to NFC, describes a person's propensity to partake in and enjoy processing feelings (Maio & Esses, 2001). As per NFC, this constructs exhibits an individual's general motivational predispositions and is measured on self-report items (Appel, Gnambs, & Maio, 2012).

This concept, developed by Maio and Esses (2001), is based on a wide definition of affect, including feelings, preferences, moods, and evaluations. Individuals with high levels of this personality trait have a tendency to approach emotion-inducing experiences compared to low NFA individuals, who are more likely to avoid those situations (Maio & Esses, 2001; Sojka & Giese, 1997). In addition, people with a strong NFA tend to be more responsive to emotional experiences, such as in their reported intensity of emotions elicited during dramatic or horror films (Bartsch, Appel, & Storch, 2010) and in their affective involvement in public emotional events (such as the death of a renowned public figure) (Maio & Esses, 2001), in comparison to individuals low in this construct.

Research on this construct indicates that NFA not only involves the need to feel and understand emotions in oneself and others (Maio & Esses, 2001), it also is associated with the extent to which individuals believe that emotions are useful in guiding attitudes and behaviour (Huskinson & Haddock, 2004). Collectively, these findings suggest that people with high NFA are more prone to search for

affective information in attitude formation. Therefore, individual disparities in NFA should be associated with varying receptivity to affect-based persuasive messages (Haddock et al., 2008).

In the decade following the introduction of the NFA, the construct has been included in several studies on various subjects, ranging from studies on narrative persuasion (Appel & Richter, 2010; Thompson & Haddock, 2012), to juror sentencing decisions in the legal system (Corwin, Cramer, Griffin, & Brodsky, 2012), to its effect on partisan evaluations in voting behaviour (Arceneaux & Vander Wielen, 2013).

In advertising, research has shown that feelings evoked from advertisements do have a significant effect on brand evaluations (Pham, Geuens, & De Pelsmacker, 2013) and that positive affect can stimulate more favourable attitudes towards the advertisement and brand (Chang, 2005). Likewise, individuals attaining high scores on affect intensity measure had more intense emotional responses to emotionally appealing advertisements (Moore, Harris, & Chen, 1995). Furthermore, emotional advertisements tend to be more effective for certain product types, such as low involvement and hedonic items, than for high involvement or utilitarian products (Geuens, De Pelsmacker, & Faseur, 2011). Collectively, these studies indicate the high potential for the need for affect as a variable for explaining important processes in communication science and applied consumer research (Appel et al., 2012).

2.3.3 *Association between NFC and NFA*

A handful of studies have assessed the association between measures of the need for affect and need for cognition. For example, in creating the NFA scale, Maio and Esses (2001) discovered a shared correlation of r= 0.21 between the NFA and NFC scales. Furthermore, a later study by Huskinson and Haddock (2004) found relatively low correlation (r = 0.15) between the scales and research by Ruiz and Sicilia (2004) suggested that affective and cognitive processing systems can work independently and also interactively (i.e. combination processors).

Likewise, earlier research by Sojka and Giese (1997) suggested that a biaxial grouping can be used to depict the relationship between need for affect and the need for cognition, in terms of high and low levels of each trait. Therefore, a person can have a high NFC but a low NFA (i.e. “Thinker), a high NFA but a low NFC (i.e. “Feeler”), a high NFC and high NFA together (i.e. “Combiner) or a low NFC and low NFA together (i.e. Alternative Processor) (Sojka & Giese, 1997).

The association between these personality traits has also been explored within the research field of attitudes and persuasive communication (Fabrigar & Petty, 1999; Thompson & Haddock, 2012). For instance, some studies have shown that individuals respond better to persuasive messages that match their personality preferences – i.e. individuals with an affective preference (i.e. high NFA/low NFC) were more persuaded by an affect based message, and vice versa for individuals with a cognitive preference (i.e. high NFC/low NFA) (Haddock et al., 2008; Ruiz & Sicilia, 2004).

Similarly, these personality traits have differing influences in terms of the information sought in decision making. High NFC individuals are motivated to search for cognitive information (Sojka & Giese, 2001) and like to depend on thinking to make rational and logical decisions (Cacioppo & Petty, 1982). Conversely, individuals with high NFA are driven to seek and process affective information (Sojka & Giese, 2001) and tend to ask themselves *“How do I feel about it?”* when making decisions (Pham, 1998). These differences in “processing motivation” personality traits could explain the differences in processing visual or verbal information, as discussed in subsequent sections.

2.4 Visual and verbal information processing

It has been well demonstrated in social psychology that psychological needs differ according to individuals and impact the process and evaluation of information e.g. (Cacioppo, Petty, Kao, & Rodriguez, 1986; Darley, 1999; Kim & Lennon, 2008; Putrevu, 2001). Cognitive personality research categorises individuals into two groups – *visualisers* (individuals who prefer visual

information and products that stress visual images or messages) and verbalisers (individuals who prefer the written word and products that focus on verbal information) (Schiffman et al., 2010).

Childers, Houston, and Heckler (1985) established the notion that some individuals have a preference or tendency to process information that is visual (pictures) or verbal (words). This "processing style" is conceptualised as a cognitive personality trait (Childers et al., 1985). As with NFA and NFC, visual and verbal processing appears to be relatively independent, with most researchers arguing that people tend to be predisposed towards a visualising or verbalising type of processing (Mendelson & Thorson, 2004). In addition, previous studies have not found significant correlations between the types of processing, for instance, with a study by Sojka and Giese (2001) that reported a shared weak correlation of r = -.03 (p = .62) between the visual and verbal processing subscales. Therefore these tendencies are likely to demonstrate different reactions and sensitivites to environmental stimuli, and in the case of this study, to different content formats on SNS.

Apart from psychological factors, the differences in processing of visual and verbal information can also be examined in terms of biological origin, particularly in terms of the structure and activation areas within the brain. Past research indicates that hemispheric lateralisation, also referred to as split-brain theory, offers a viable biological explanation in information process differences. The premise of this concept is that the human brain is split into two, with the left hemisphere specialising in verbal abilities (Levy, Trevarthen, & Sperry, 1972) with the left inferior parietal lobule specifically being activated by the processing of words (Townsend & Kahn, 2014). Conversely, the right hemisphere specialises in spatial perception (Levy et al., 1972) with the right middle occipital gyrus specifically processing pictures (Townsend & Kahn, 2014).

Visual or verbal processing preferences impacts at one or both phases of information processing – the attention phase (demonstrated as a tendency to focus on one type of stimuli over another) or the working memory phase (demonstrated as a tendency to create mental images of particular cues) (Heckler, Childers, & Houston, 1993). For instance, a study using eye-tracking

technology showed that photographs directed the readers' attention on newspaper pages, with 75% of photos viewed in comparison to only 25% of text viewed (Garcia & Stark, 1991). Additional research has also found support for the enhancement of memory through the inclusion of pictures. Childers (1986) found that compared to the verbal component, the pictorial/visual element of a print advertisement is more distinctively and elaboratively encoded. Similarly, Schmitt, Tavassoli, and Millard (1993) found that the major components of an advertisement (e.g. the brand name) were better recalled when they involved pictures, compared to involving only words.

The presentation of information in visual and/or verbal form is an essential component of the information environment for the consumer, particularly in non-personal forms of marketing, such as within advertising and online retailing (Kim & Lennon, 2008). In terms of different types of processing preferences in advertising evaluations, a person with a preference for visual information would process the pictures of an advertisement, while a person with a preference for verbal information would tend to process the words (Sojka & Giese, 2001). Therefore, while shown the same advertisement, based on their preference for visual or verbal information, different people would have different reactions to the visual and verbal elements of the advertisement (Sojka & Giese, 2001).

Subsequent research within consumer and advertising research has demonstrated how different presentation formats of a product (visual vs. verbal) influence consumer attitudes towards the advertisement and the brand (Bone & Ellen, 1992; Mitchell, 1986); advertising and brand recall (McQuarrie & Mick, 2003) as well as behavioural and purchase intentions (Bone & Ellen, 1992; Kim & Lennon, 2008). In general, these studies have reinforced the notion that visual information is more effective than verbal information in recall and recognition (Bone & Ellen, 1992; Mendelson & Thorson, 2004), and results in improved brand and advertisement attitudes (Mitchell, 1986). Little is known however about what drives the effectiveness of visual information versus verbal information in contexts beyond traditional advertising domains, such as on social network sites, as discussed in the following sections.

2.5 Social Network Sites (SNS)

2.5.1 *Growth and definition of social networking sites (SNS)*

Social network sites (SNS) have grown exponentially over the last ten years, with hundreds of millions of people worldwide visiting SNS such as Facebook, Twitter, LinkedIn and Instagram for social interaction, entertainment and information exchange (Hughes et al., 2012). In 2012, there were 1.4 billion social network users around the globe, and it is estimated that in 2016, this will reach 2.13 billion (Statista, 2015a).

One of the earliest and most commonly cited definitions of social network sites in academic literature was developed by Ellison (2007), who defines SNS as web-based services allowing individuals to (1) create a public (or partially public) profile within a confined system, (2) formulate a list of other users with whom a connection is shared, and (3) view and navigate their list of connections and those made by others within the system. Therefore, social networking sites essentially allow users to develop and sustain a community of individuals online (Heinonen, 2011).

The origins of SNS can be traced to the information exchange roots of the internet, in terms of basic community messaging sites, online bulletin boards and chat rooms (Kaplan & Haenlein, 2010; Ridings & Gefen, 2004). However, the first identifiable SNS, according to the definition and criteria developed by Ellison (2007), was the launch of SixDegrees.com in 1997. This site gave users the ability to develop profiles, list their connections (i.e. “Friends”) and explore the Friends lists (Ellison, 2007). However, early SNS such as these often languished by the early 2000s, mainly due to the limited number of people who were online at the time, as well as limited technical know-how (Barnett, 2011).

By 2003, as internet usage increased, many new SNS were launched and the popularity of SNS such as MySpace and Friendster increased, particularly amongst teenagers, as well as among specific interest groups (such as for indie-rock bands and their fans on MySpace) or specific targeted ethnic groups

(such as AsianAvenue for Asian Americans) (Barnett, 2011). In addition, these web services increasingly allowed the visibility of a user's network and profile to other users (Ellison, 2007) as well as greater personalisation and control of profile pages (Barnett, 2011).

However, the proliferation of SNS into cultural mainstream on the global scale that is now seen, occurred from 2006 onwards (Ellison, 2007). This coincides with the launch of Facebook becoming accessible to everyone, instead of being restricted to distinct academic or corporate networks (such as Harvard students), which gave it a much broader appeal and led to its current prominence (Barnett, 2011). In addition, the growth of user-generated content (Kaplan & Haenlein, 2010), the integration of externally developed applications into SNS, as well as other websites incorporating SNS features, have contributed to the widespread SNS growth experienced to date (Ellison, 2007).

Common features among most SNS include the creation of a profile (which typically includes personal information about the user such as their age, gender, interests, location); the addition and traverse of connections (such as “friends” or “followers”) (Lampe, Ellison, & Steinfield, 2007); private messaging features; the ability to comment on various user-contributed content; and photo and/or video-sharing capabilities (Ellison, 2007). There are however distinct features or foci among the different SNS, and new features regularly emerge to meet user demand (Hughes et al., 2012), as described in Section 2.5.2.

It should be noted that although the term ‘social network sites’ are often used semi-interchangeably with the term ‘social media’, there are differences between the concepts. Social media is a broader term that includes a variety of online information-sharing formats (Gangadharbatla, 2008) and applications, namely blogs, virtual game and social worlds (such as Second Life, World of Warcraft), content communities (such as YouTube), collaborative projects (such as Wikipedia) and social network sites (such as Facebook) (Kaplan & Haenlein, 2010). For this study however, the context was within social network sites (SNS) only and was defined as according to Ellison (2007) above. An overview of the current popular SNS is outlined in the following section.

2.5.2 *Overview of major SNS*

Every SNS offers social interaction online, however they do not all provide identical services or have a similar focus (Hughes et al., 2012). Five of the most popular and commonly used social network sites (Facebook, Twitter, Instagram, LinkedIn and Pinterest) globally, were examined in this study. Details of each SNS that were included in this research are outlined below:

Facebook

Facebook is currently the largest SNS globally and as of September 2015, had 1.55 billion monthly active users (Facebook, 2015a), gaining 195 million new users from the previous year (Statista, 2015b). According to Amazon's web analytics company Alexa, Facebook is the most visited website on the internet, after Google (Alexa, 2015).

Facebook is a free social networking site founded in 2004 by Mark Zuckerberg (Facebook, 2015a). By creating a personal profile, people use Facebook to keep up with connections (referred to as "friends"), upload photos, share links and videos, send private messages and learn more about the people they meet (Facebook, 2015b). These features, combined with the ability to create applications, fan pages and groups have resulted in Facebook having broad appeal for online socialising (Hughes et al., 2012).

In late February 2016, Facebook launched five additions to the Like button, called "Reactions". These extensions provided users with more ways to express their emotional response to a Facebook post through animated emotive icons (Facebook, 2016) that are commonly referred to as *emojis* (Hern, 2015). By hovering over (when using a computer or PC) or pressing hard (when using a mobile phone) on the Like button, Facebook users could indicate a more nuanced response to a post in terms of "Like", "Love", "Haha" (i.e. laughter/humour), "Wow" (i.e. shock/amazement), "Sad" or "Angry" (Stinson, 2016).

These reactions provided numerous benefits in terms of allowing users to share their reaction more easily and quickly than writing a comment, particularly on

mobile devices which are the primary way to access the SNS (Facebook, 2016; Stinson, 2016). Furthermore, in instances where a “Like” response would not be appropriate, “Reactions” give users more suitable options (Chowdhry, 2016). They also fill the function of universally recognised, nonverbal cues (such as facial expressions, gestures and body language) that usually accompany traditional spoken communication (Stinson, 2016). From a marketing perspective, the addition of Reactions allows advertisers to obtain a wider scope of responses to their Facebook campaigns (besides likes, comments and shares for instance) and also have potential to target users of specific responses to their posts (e.g. reach out to users that gave Angry reactions) (Greenberg, 2016). Overall, this new function could have potential implications for this current study, in terms of SNS moving towards providing more visual expressions of emotional sentiment for their users.

Twitter

Twitter is a free social networking and micro-blogging communication tool created in 2006 by Evan Williams, Jack Dorsey, Noah Glass, and Biz Stone (Twitter, 2016). The service allows users to send and read short posts called “tweets” that are up to 140 characters in length (Twitter, 2016; Wu, Hofman, Mason, & Watts, 2011). Users create a profile to which other users connect to as “followers” (Twitter, 2016).

Twitter is the second largest SNS globally and 9th most visited website on the internet globally (Alexa, 2015). In the third quarter of 2015, the site has 307 million monthly active users worldwide (Statista, 2015c), however growth of their user base has slowed significantly over the last two years (Kumar & Abutaleb, 2015). Some have attributed the reduction in growth to the design of the site (Barret, 2015), which is more focused on text information, compared to SNS, such as Instagram, which focus on visual content, such as pictures (Knibbs, 2013a), as detailed in the following section.

Compared to Facebook, Twitter seems to be more focused on the sharing of opinion and information among followers (Wu et al., 2011) rather than on two-way social interaction among “friends” (Hughes et al., 2012). Similar to

Facebook however, Twitter has also recently included the use of customised emojis on the site in response to increased mobile phone usage.

According to Laffertey (2015), this consists of custom hashtag emojis that appear automatically in tweets for specific hashtags. These hashtag-linked images were first used for the 2010 Soccer World Cup to allow fans to show their support by including a hashtag of national flags in their tweets, referred to as “hashflags”(Magdeleno, 2014). Twitter later included custom hashtags to promote or celebrate other major events such as the movie Star Wars in December 2015 (Olanoff, 2015). Towards the last quarter of 2015, the SNS commercialised these custom hashtags by charging advertisers to use branded hashtag emojis as part of their marketing strategies and campaigns (Johnson, 2016). Notably, Coca-Cola was the first company to use a custom emoji on Twitter as part of its #ShareACoke marketing campaign in September 2015 (Olanoff, 2015). Sponsored emojis appear to be a more visual way for brands to promote their brands on Twitter and going forward, may have the potential to turn around the SNS current growth stagnation (Johnson, 2016).

Instagram

Instagram is a free photo and video sharing mobile application launched in 2010 by Kevin Systrom and Mike Krieger (Instagram, 2015a). Users can take and edit photos and short videos using digital filters on their mobile devices and share these on the application as well as on various social networking sites, such as Twitter and Facebook (Bakhshi, Shamma, & Gilbert, 2014). This SNS allows users to create an account which is linked to other people that are connected to their account as “followers” (Instagram, 2015a).

Instagram has grown rapidly worldwide, with 400 million monthly active users as of September 2015, up from 300 million in December 2014 (Statista, 2015d). According to official statistics on the Instagram website, over 40 billion photos have been shared since it was founded, with over 80 million photos on average shared per day (Instagram, 2015b). In April 2012, Instagram was acquired by Facebook for about $1 billion (Rusli, 2012).

The high growth levels of the app are increasingly gaining the attention of advertisers (K. Wagner, 2015), particularly in light of the launch of “Instagram Ads” in mid-2015 which greatly increased opportunities for companies to raise awareness and interact with a highly engaged audience (Griffith, 2015).These advertising solutions allows brands to place sponsored posts on the platform, and for users to take marketable actions with these posts (Sloane, 2015). For instance, the “Shop Now” button which links outside of the app to allow purchase of items in the pictures (Sloane, 2015).

According to Instagram’s business blog, the rapid growth of mobile devices for shopping allows the SNS to leverage retail opportunities through targeting relevant messages and tailoring advertising promotion to specific users (Instagram, 2016). Given the engaging visual nature of this SNS, it is the ideal platform to showcase a variety of products, services and experiences – ranging from fashion, travel, home decoration, food, health, fitness and beauty (Talbot, 2015).

Pinterest

Pinterest is an online visual bookmarking tool where users upload “pins” (visual bookmarks) on their “boards” (profiles where users collect pins by theme or topic) based on content they find on the internet or on the Pinterest website itself (Pinterest, 2016). The site was founded in 2010 by Ben Silbermann, Evan Sharp and Paul Sciarra (Pinterest, 2016) and announced in September 2015 that it had 100 million monthly users (Truong, 2015).

According to World Wide Worx and Fuseware (2014b), Pinterest growth worldwide has slowed over the last year, including in South Africa where active users declined from 910 000 in August 2013 to 840 000 a year later. Overall however, consumer interest in visual apps such as Instagram and Pinterest continues to rise worldwide, particularly among younger SNS users (Telecom, 2015). It should be noted that while both are photo-sharing SNS, Instagram is primarily used by users to share their own personal photos, whereas Pinterest focus is on displaying interesting photos that users have found on the internet (Luckerson, 2014; Zimmerman, 2015).

LinkedIn

LinkedIn is a professional social networking site launched in 2003 that allows users to engage in business orientated connections; discover professional opportunities and jobs; and get news, updates and insights (LinkedIn, 2015). It was founded by Reid Hoffman, Jean-Luc Vaillant, Konstantin Guericke, Allen Blue, Eric Ly (LinkedIn Corporation, 2016) and as of the third quarter of 2015, the site had 396 million members, a rise from 332 million members in the same period in 2014 (Statista, 2015e).

Given that LinkedIn is mainly used by working professionals and employers for business related connections and industry contacts (LinkedIn, 2015), unsurprisingly its popularity is greatest among slightly older age groups, with only 26% of LinkedIn users worldwide falling into the 16-24 year category (Statista, 2015f), in comparison to other network sites such as Instagram for instance, where 41% of its users globally fall into this age group (Statista, 2015g).

2.5.3 *SNS usage in South Africa*

Information regarding the exact magnitude, levels of popularity and diffusion rates, and demographic statistics of SNS users is quite limited in South Africa currently (Basson, Makhasi, & van Vuuren, 2010). However an overview of the most relevant publically available information from local and global marketing research reports indicates that, in line with trends seen worldwide, South Africans have also embraced SNS. For instance, as of January 2015, 22% of internet users in the country were active social network site visitors, aligned with the global average of 29% (Statista, 2015h).

According to Statista (2015i), the leading SNS in South Africa (excluding instant messaging applications such as WhatsApp) as of the fourth quarter of 2014, was Facebook, with 26% penetration of the South African population. This was followed by Google + (15%), Twitter (13%), LinkedIn (12%), Pinterest (9%) and Instagram (8%). In terms of user base growth from 2014 to 2015, World Wide Worx and Fuseware reported that Instagram experienced the fastest growth

(133%), followed by LinkedIn (20%), Twitter (12%) and Facebook (10%) (van Zyl, 2015). Pinterest has reportedly seen growth slow down worldwide, and its user base actually shrink in South African between 2013 and 2014 (World Wide Worx & Fuseware, 2014b) as indicated in Table 1 below, which gives a detailed breakdown of the number of active users of various SNS in South Africa from 2012 to 2015.

Table 1: Number of active users of various social network sites in South Africa, in millions (2012 – 2015)

Year	Facebook	Twitter	LinkedIn	Instagram	Pinterest
2015	13,0	7,4	4,6	2,68	-
2014	11,8	6,6	3,8	1,1	0,84
2013	9,4	5,5	2,7	0,68	0,91
2012	6,8	2,4	1,93	-	0,15

Source: (van Zyl, 2015; World Wide Worx & Fuseware, 2012, 2014a, 2014b)

Growth factors of SNS usage in South Africa

Overall growth in SNS usage in South Africa can be particularly accredited to an increase in internet penetration in the country (MasterCard, 2014). According to a report on key digital statistics released in January 2015 by social media marketing and communications agency, *We Are Social*, 46% of the total population (54 million) of South Africa were active internet users, representing growth of 24% from the previous year (Shezi, 2015).

This growth corresponds with an increased use of mobile phones to access the internet and more affordable smartphones in the market (Walton & Leukes, 2013). Mobile data traffic in South Africa is also predicted to grow at an annual compound rate of 55% (i.e. nine fold) by 2020, according to IT networking company Cisco in the Visual Networking Index Global Mobile Data Traffic Forecast for 2014 to 2019 (Cisco, 2016; Thomas, 2016). Decreasing data prices – due to improved broadband infrastructure and capacity (Gedye, 2012) as well as increased price competition between the cellular network operators, is expected to further increase internet usage (Rao, 2012) – and increase access to and usage of social networking as a result.

Demographic and usage profile of SNS users in South Africa

In terms of demographic profile of SNS users in the country, World Wide Worx and Fuseware reported that for Facebook (the most popular SNS in South Africa with 13 million active users) there is an almost equal split between males (50.8%) and females (49.2%) that use the platform, among those whose gender is identifiable (van Zyl, 2015). In terms of age, in 2014 the biggest segment users of Facebook were in the 13-18 year age group, which equated to 21% of active users (World Wide Worx & Fuseware, 2014b). Overall SNS usage is particularly high among younger users, for instance, with 73% of 21-24 year olds using these sites every day, according to a national survey by global research agency TNS (TNS, 2012).

These results correlate with findings from studies conducted in developed countries. For instance, studies conducted in the United States indicate that most users of SNS are teenagers and young adults, aged 18-29 years (Boyd, 2007; Lenhart, Purcell, Smith, & Zickuhr, 2010). In addition, penetration is highest among younger age groups, with Statista (2012) reporting that among the 16-24 year age group in the United Kingdom, 90% used SNS. This declines to 74% among 25-44 year olds, and to less than 50% among those aged 45 years and older (Statista, 2012)

Research conducted outside of South Africa has identified two main uses of social interaction online – to find others with similar interests (Correa et al., 2010) and to sustain pre-existing social connections (Ellison, 2007). Similar findings from exploratory studies in South Africa show, for instance, that students use Facebook to keep in touch with existing offline friendships more than to create new relationships online (Basson et al., 2010; Wiese, Lauer, Pantazis, & Samuels, 2014). In addition, a multi-country study applying the uses and gratifications theory to compare higher education students' motivation for using social networking sites found that South African students reported that the key reasons for using SNSs were to "Pass time", "Convenience"' and "Entertainment" (Karimi, Khodabandelou, Ehsani, & Ahmad, 2014).

2.5.4 *Content opportunities and challenges on SNS*

Given that SNS offer a technological platform for people to interact, create and share content online (Ellison, 2007), they offer numerous opportunities for brands, such as advertising, product development and market intelligence (Richter, Riemer, & vom Brocke, 2011). Every day, an enormous amount of information is shared and received through SNS in real time (Zhong et al., 2011). It is now possible for one person to communicate with thousands or even millions of people on SNS about different companies and what they offer. These internet-based platforms are increasingly affecting several aspects of consumer behaviour, such as awareness, attitudes, opinions, information acquisition, purchase behaviour and post-purchase communication and evaluation (Mangold & Miles, 2007).

These technological advances however, have added to the fragmentation of media seen within traditional media sources, as well as online such as SNS, and increased the amount of "noise" in terms of commercial messages to which consumers are exposed (Qualman, 2010; Webster & Ksiazek, 2012). As a result, consumers are increasingly choosing to control this information, and through technology, are enabled to avoid content and commercial messages that do not appeal to them (Clemons et al., 2007). Kelly, Kerr, and Drennan (2010) developed a model to explore the antecedents of advertising avoidance on online social networking sites. The model suggested that one of the reasons that advertising in this environment would likely be avoided was if the consumer was sceptical toward the advertising medium, such as the SNS platform itself (Kelly et al., 2010).

There are now numerous ways for brands to deliver their messages online – from various SNS, such as Facebook and Twitter – to various content formats, such as text-based posts, photographs, videos, and infographics (Allen et al., 2012; Kaplan & Haenlein, 2010). In addition, consumers have numerous ways to respond to and interact with this information, ranging from establishing a relationship with the brand or company on the SNS (e.g. becoming a follower or fan); engaging with content (e.g. commenting or "liking") and participating in

word-of-mouth behaviour (e.g. retweeting or sharing content) (Hoffman & Fodor, 2010).

For the purposes of this study, the definition of “content” is adapted from the description of “information” as per Sojka and Giese (2001), as stimuli data that can be presented in both verbal (words or text) or visual (picture or video) format, on SNS. “Content preference” in this study therefore adapted the concept of visual and verbal information processing style as developed by Childers et al. (1985), to examine the general style or manner that users engage with various types of content on social network sites.

Increasing research attention has been focused on exploring what makes various content engaging in online communities and on social media (Aksoy et al., 2013; De Vries, Gensler, & Leeflang, 2012; Goh, Heng, & Lin, 2013; Heinonen, 2011; Sashi, 2012) – particularly on SNS such as Facebook (Bakhshi et al., 2014; Cvijikj & Michahelles, 2013; Malhotra, Malhotra, & See, 2013). When examining the difference in effect caused by different levels of vividness (i.e. the degree of stimulation of the different senses) on brand post popularity on social media, De Vries et al. (2012) examined hundreds of posts from 11 international brands. They discovered that the more vivid brand posts lead to more positive attitudes towards the brand post, which then increased the popularity of the brand post (as brand fans were more likely to like or comment on the brand post).

Later, Cvijikj and Michahelles (2013) examined what effect various content characteristics such as post media type (ranging from text status, photo, video and link) have on brand engagement on a Facebook brand page. Similarly, richer (i.e. more vivid) media posts, particularly photos, were the most appealing media type, proving the authors’ hypothesis that vividness increased the level of engagement with brand posts (Cvijikj & Michahelles, 2013).

Although vividness has generally been shown to increase brand post popularity/engagement (Cvijikj & Michahelles, 2013; De Vries et al., 2012), these studies have not explored what some of the preceding factors are that impact engagement with different types of content based on underlying

individual characteristics such as information processing styles and personality traits. Given that marketers are spending an increasing proportion of their marketing budget on content marketing and SNS advertising (eMarketer, 2015), it is crucial that organisations break through the clutter and use the most appropriate platform and content format that will reach and appeal to their target consumer or user, in terms of their individual characteristics (Sterne, 2010). The following section highlights what has been previously explored in terms of a key individual characteristic, personality, and SNS usage.

2.5.5 *Personality and SNS usage*

In light of the proliferation of SNS globally, there has been an upsurge of academic research on this field. Given that online platforms such as SNS enables interpersonal interaction, it is therefore unsurprising that a growing number of studies have discovered personality to be one of the key factors in understanding the behaviour of people in the online environment, and on SNS, in particular (Amichai-Hamburger & Vinitzky, 2010).

Previous research has explored several different types of personality traits that may predict usage, behaviour and motivation in social network environments (Amichai-Hamburger & Vinitzky, 2010; Correa et al., 2010; Hughes et al., 2012; Ross et al., 2009; Zhong et al., 2011). Many of these studies have used some or all of the personality traits in the Five-Factor-Model, particularly on the two largest SNS, Facebook and Twitter (Amichai-Hamburger & Vinitzky, 2010; Correa et al., 2010; Hughes et al., 2012; Ross et al., 2009; Seidman, 2013).

The Five-Factor-Model consists of five broad personality traits (often referred to as the 'Big Five'), namely, Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (Digman, 1990). While the model is considered to include some of the critical elements of personality (McCrae & Costa Jr, 1999), several researchers, such as Ross et al. (2009), have proposed that these higher order traits might be too broad to encapsulate all of the various relationships between personality and online behaviour. Specifically, an increasing number of authors argue that narrower (i.e. lower order) personality traits exhibit higher correlations with SNS usage than the

broader, Big Five traits, and are therefore more relevant in examining online behaviour (Ross et al., 2009).

A couple of recent studies have begun examining the relationships between narrower personality traits (such as the need for cognition) and particular aspects of SNS usage and behaviour. For instance, Zhong et al. (2011) were possibly the first authors to conduct research to determine whether there was a link between how much time people spend on SNS and their likelihood to enjoy participating in effortful thinking (i.e. NFC). One of the key findings of the study was that that NFC played an important role in SNS use. A later study conducted by Hughes et al. (2012) examined the correlations between several personality traits (the 'Big Five', as well as the narrower traits sociability and the need for cognition) and the usage of Twitter and Facebook. While both studies found that there are some associations between SNS use and need for cognition, Zhong et al. (2011) concluded that more studies are needed to ascertain the interactions between tendency of effortful thinking and SNS use. Hughes et al. (2012) also suggested that further research should concentrate on uncovering additional narrow traits that may help improve understanding of individual online behaviour. This current study endeavours to explore the relationship between specific traits and SNS behaviour, as discussed in the subsequent sections.

2.6 Sub-problem 1: Personality traits and visual content preference on SNS

Few studies to date have explored how differences in personality may affect underlying information processing preferences. Two exploratory studies (Sojka & Giese, 2001, 2006) found that matching consumer characteristics (need for cognition or need for affect) with the format of the message (verbal or visual) was imperative in attracting attention to and increasing successive processing in print advertisements. In other words, different types of information will be sought out and processed for decision making purposes based on the personality processing traits of the individual, as subsequently discussed.

2.6.1 *Hypothesis 1: The relationship between need for affect and visual content preference*

Parallels in the processing of affect and visual stimuli suggest that affective processors would react more favourably to visual information than cognitive processors would. For instance, in consumer perception and learning, consumers often group together information (such as a telephone number) into separate “chunks” or segments, rather than try to remember several individual pieces of data (Schiffman et al., 2010).

Previous studies that have compared the processing of images versus words have found that visual stimuli are generally processed in a gestalt manner and words are typically processed in a piecemeal fashion (MacInnis & Price, 1987; Sharps & Nunes, 2002; Townsend & Kahn, 2014). The prior emphasises that the processing of images is usually conducted in a less systematic, faster approach that is more holistic (i.e. processed all at once). For the latter, the processing of verbal stimuli is more deliberate and tends to feel slower or more effortful, given that each word or number must be interpreted individually (Townsend & Kahn, 2014).

This “chunking” or gestalt processing of visual data is consistent with the holistic nature of affective processing (Cacioppo, Gardner, & Berntson, 1999; Childers & Houston, 1984) which evaluates stimuli in its entirety and deduces for instance that “I just don’t like it”. Similarly, more visual thinkers have been shown to cope with abstract concepts (which tend to be more visual) more naturally than verbal thinkers (Liu & Ginther, 1999).

Finally, in advertising, Sojka and Giese (2001) found that individuals with high NFA tend to be more accustomed to deciphering what the visual components in the advertisement represent symbolically. Subsequent research by Sojka and Giese (2006) within the context of print advertising showed statistical and directional evidence for the idea that affective processors have better attitudes towards the advert and brand containing visual stimulus, than those low in affect. Therefore, it is reasonable to conclude that on SNS, users with high NFA would likely be positively associated with a preference for visual content on

SNS, given their higher motivation to seek and process affective information (as per H1$_a$ below). Thus, the following hypotheses are proposed:

H1$_0$: *There is no relationship between the need for affect (NFA) and visual content preference on SNS*

H1$_a$: *There is a positive relationship between the need for affect (NFA) and visual content preference on SNS*

2.6.2 *Hypothesis 2: The relationship between need for cognition and visual content preference*

Leading from this, in contrast to the holistic nature of affective processing, cognitive processers are more likely to separate or decompose data to identify specific attributes (Mantel & Kardes, 1999). As a result, it is logical to assume that when viewing different types of content on SNS, individuals with a high need for cognition would prefer not to process visual content (as per H2$_a$ below), given their predisposition to think rationally and rely on factual, rather than abstract information (Sojka & Giese, 2006). Thus, the following hypotheses are proposed:

H2$_0$: *There is no relationship between the need* for cognition (*NFC) and visual content preference on SNS*

H2$_a$: *There is a negative relationship between the need* for cognition (*NFC) and visual content preference on SNS*

2.7 Sub-problem 2: Personality traits and verbal content preference on SNS

While visual information has been stressed so far, not all content on SNS (and marketing material in general) is visual, and therefore it is imperative to investigate the responses of affective and cognitive processors to verbal content.

2.7.1 *Hypothesis 3: The relationship between need for cognition and verbal content preference*

The Elaboration Likelihood Model (ELM) of persuasion by Petty and Cacioppo (1986) has shown the most potential in explaining the relationships between these personality traits and information processing preference (Zhong et al., 2011). The model describes attitude change according to a dual process theory, with individuals following either a “peripheral” route or “central” route of persuasion (Petty & Cacioppo, 1986). Individuals tend to follow the peripheral route in situations where they are not greatly invested or motivated, or do not prefer dealing with complex information (Petty & Cacioppo, 2012). When evaluating a message or argument, they tend to be influenced by less relevant “peripheral” attributes, such as the appearance or credibility of the person delivering the message, and other less thought-out heuristics such as moods and emotions (Cacioppo et al., 1986). Conversely, for individuals following the central route, active consideration of information is involved and the enjoyment and effort of processing this information is a motivating factor (Cacioppo et al., 1986).

As a result, high NFC individuals are more likely to be swayed by the rationale of the argument and prefer in-depth, logical information to make a decision (Cacioppo & Petty, 1982). Furthermore, individuals with high NFC were more likely to be influenced by the calibre of arguments (i.e. use the central route of persuasion). Conversely, individuals with low NFC were found to be more likely to use the peripheral route of persuasion (Petty, Cacioppo, & Schumann, 1983) and be swayed by peripheral cues, such as celebrity endorsements, which are less easily depicted in a verbal format compared to a visual format (Sojka & Giese, 2006).

Therefore, given that individuals with a high NFC are attracted to information that is mentally stimulating and provides them with the opportunity to think and acquire more knowledge, it is reasonable to assume that these SNS users would be specifically drawn to and motivated to process verbal components in SNS content (as per H3***a*** overleaf).

Therefore, the following hypotheses are proposed:

H3$_0$: *There is no relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

H3$_a$: *There is a positive relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

2.7.2 *Hypothesis 4: The relationship between need for affect and verbal content preference*

As a result, it follows that the very characteristics of verbal stimuli that individuals with high NFC prefer will not appeal to individuals with high NFA. Therefore, when looking at verbal information, individuals with high NFA would be less inclined to process the verbal components because they prefer to view visual stimuli like pictures (Sojka & Giese, 2006). Therefore, it is likely that SNS users that have a high NFA are also more likely to dislike verbal content on SNS (as per H4$_a$ below). The following hypotheses are therefore proposed:

H4$_0$: *There is no relationship between the need for affect (NFA) and verbal content preference on SNS*

H4$_a$: *There is a negative relationship between the need for affect (NFA) and verbal content preference on SNS*

2.8 Conclusion of Literature review

In light of the growth SNS worldwide, particularly the recent proliferation of visually-based platforms, there is a lack of research conducted to understand which format of content SNS users prefer (visual vs. verbal) and for which reasons. A growing number of studies have started to assess how individual differences affect SNS usage and behaviour (Amichai-Hamburger & Vinitzky, 2010; Hughes et al., 2012; Ross et al., 2009; Seidman, 2013). This study aims to further expound on the effect that individual characteristics have on SNS by exploring the relationship between specific personality traits (need for cognition and need for affect) and content preference (visual or verbal) on SNS.

2.8.1 *Identification of research variables*

This study tested the relationships between the selected personality traits (need for cognition and need for affect) and content preference on SNS (visual vs. verbal) on SNS in South Africa. The conceptual framework in Figure 2 on the following page depicts the hypothesised relationship between the variables. The personality traits (NFA and NFC) are the predictor variables that have a direct causal relationship with content preference on SNS (the outcome variables). In addition, personality traits and content preference on SNS are both latent (i.e. unobserved) variables.

2.8.2 *Diagrammatic illustration of research model*

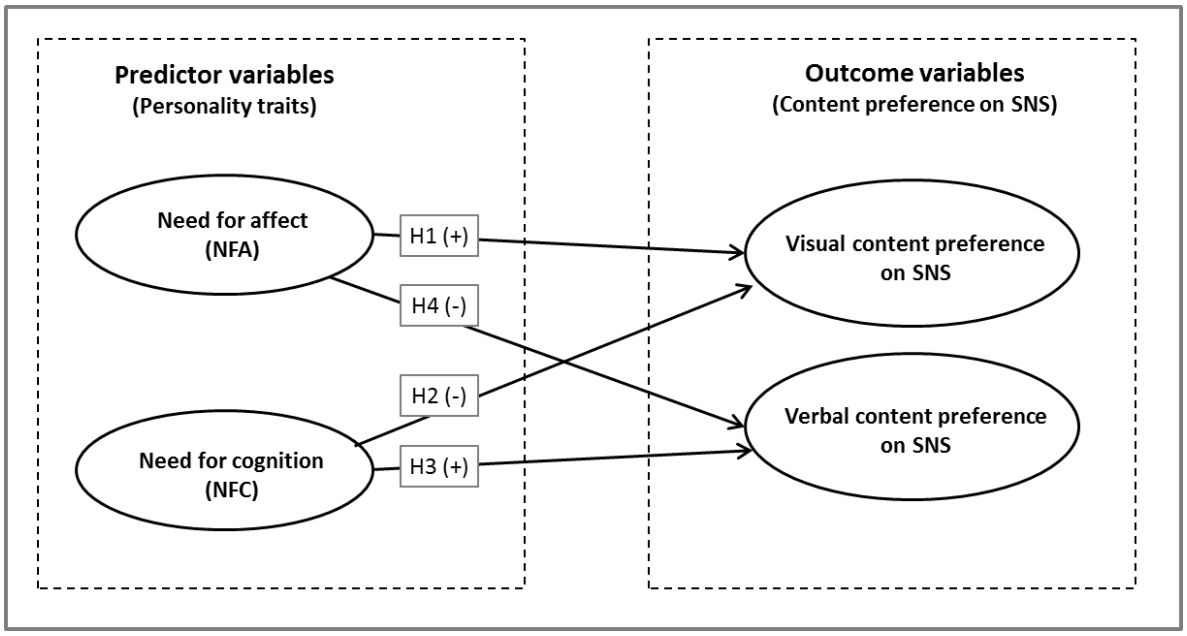


Figure 2: Conceptual framework for the study

2.8.3 *Hypotheses statements*

H1$_0$: *There is no relationship between the need for affect (NFA) and visual content preference on SNS*

H1$_a$: *There is a positive relationship between the need for affect (NFA) and visual content preference on SNS*

H2$_0$: *There is no relationship between the need* for cognition (*NFC) and visual content preference on SNS*

H2$_a$: *There is a negative relationship between the need* for cognition (*NFC) and visual content preference on SNS*

H3$_0$: *There is no relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

H3$_a$: *There is a positive relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

H4$_0$: *There is no relationship between the need for affect (NFA) and verbal content preference on SNS*

H4$_a$: *There is a negative relationship between the need for affect (NFA) and verbal content preference on SNS*

CHAPTER 3. RESEARCH METHODOLOGY

In this chapter, the methodology of the current study is identified and described. The methodology is defined as the procedure of conducting research and scientific investigation (Babbie, 2013; Wagner, Kawulich, & Garner, 2012) and gives attention to the epistemological considerations, ontological considerations and the theoretical paradigm of the researcher (Bryman, 2012; Neuman, 2014; Symon & Cassell, 2012).

Eight specific objectives of the methodology were examined in this chapter – to identify and describe the research paradigm (Section 3.1); the research design (Section 3.2); the population and sample (Section 3.3); the research instrument (Section 3.4); the procedure for data collection (Section 3.5); the pilot research (Section 3.6); data analysis and interpretation (Section 3.7) and the reliability and validity measures applied to assess and establish the quality of the research (Section 3.8).

3.1 Research paradigm and strategy

The research paradigm (also known as a research approach or a research strategy) refers to the general orientation or method to conduct the research (Bryman, 2012) and study the chosen topic (Babbie, 2013). The research strategy for a study generally takes two distinct forms – quantitative and qualitative – however the term increasingly extends to a third form which combines the two, called mixed methods (Bryman, 2012; Neuman, 2014).The paradigmatic orientation of this author tends towards pragmatism, which relies on a mixed methods approach (both quantitative and qualitative designs) (Maree, 2007). The ontological background of this location is based on the acceptance of diverse viewpoints (Teddlie & Tashakkori, 2009). Given this location, this author was therefore comfortable to collect and analyse either or both numerical and text data, to address the research problem

A quantitative research strategy was utilised for this study. This strategy emphasises quantification (Bryman, 2012) and the collection and analysis of data in the form of numbers (Wagner et al., 2012). Quantitative data is used to establish the relationships between variables, particularly to provide a causal explanation (Wagner et al., 2012) and is also preoccupied with measurement, generalisation and replication (Bryman, 2012). A quantitative research strategy is particularly influenced by positivism (Bryman, 2012; Neuman, 2014), an epistemological orientation that asserts that knowledge is objective, and can thus be confirmed or disconfirmed (Guba & Lincoln, 1994). Quantitative research includes the use of specific, standardised procedures of measurement and data collection, particularly for the testing of theories (Neuman, 2014). The aforementioned characteristics of a quantitative research strategy offered numerous benefits and have been effectively utilised in prior research that has investigated similar phenomena to this current research, as outlined below.

A few recent studies have utilised a quantitative research strategy in order to investigate the effect of individual characteristics on particular aspects of social network site (SNS) usage and behaviour, as per this study. For instance, Zhong et al. (2011) and Hughes et al. (2012) conducted research to explore the relationship between social network site (SNS) usage and certain personality traits. These studies aimed to determine whether these variables were related and whether SNS usage could be predicted in terms of various levels of the specific traits. Therefore the main rationale for selecting this strategy was to draw causal inferences and the test of theories. One of the key advantages of using a quantitative technique in these studies was replication – the authors were able to adopt or adapt pre-existing measures (such as the NFC scale) that were found to be reliable and valid in prior studies, and test the relationships between these variables in their research (Hughes et al., 2012; Zhong et al., 2011).

Given that the current study aims to test and explain the relationship between various individual characteristics on social network sites, a quantitative strategy provided the benefit of being able to reveal whether an association existed among these variables (Bryman, 2012). As per prior studies, e.g. (Hughes et

al., 2012; Zhong et al., 2011), this study also benefitted from using a quantitative strategy given the ability to assess adapted measures (i.e. measurement) as well as being able to directly adopt pre-existing scales (i.e. replication) that have proven viability (i.e. reliability and validity) (Bryman, 2012). In addition, use of this strategy allowed this study to determine whether causal inferences could be made among the variables of interest through quantitative means (Wagner et al., 2012). Details on how the quantitative study was conducted are outlined in the following section, the Research Design.

3.2 Research design

A research design refers to a framework for the collection and examination of data (Bryman, 2012). Designing a study needs consideration being given to various aspects of the research process, such as what the study is trying to achieve, generalisation and causality, etc. (Bryman, 2012; Neuman, 2014; Symon & Cassell, 2012). Bryman (2012) identified five different types of research designs – cross-sectional (or survey) design, longitudinal design, experimental design, case study, and comparative design.

This study utilised a cross-sectional research design. Bryman (2012) explains that this design consists of the gathering of quantitative or quantifiable data on more than one case (usually several cases) at a single point in time, which are then analysed to identify patterns of association or variation in the variables being examined. It involves the observations of a "cross-section", which is simply a sample of a population or phenomenon of interest (Babbie, 2013). Emphasis is placed on the fact that this design examines information on many cases without the potential effect of time ordering, and hence the collection of data is conducted more or less simultaneously (Neuman, 2014). In addition, Bryman (2012) states that the variation among the cases can only be established using a consistent method of measurement throughout – therefore, using quantitative or quantifiable data allows a standardised and systematic technique for measuring variation. The ability to detect variation and patterns of association is a key benefit of a cross-sectional design (Bryman, 2012), and therefore it was used in the current study. This design has also been used

effectively in earlier studies that have investigated similar phenomena to this research, as described below.

Seidman (2013), Lin and Lu (2011) and Gangadharbatla (2008) conducted research to examine the relationship between individual characteristics (personality traits and motivators respectively) and the use of SNS. The main objectives of these studies were to determine how these characteristics were associated with certain behaviours and motives for SNS usage among a cross-section (i.e. 'sample') of the population of social network users (Gangadharbatla, 2008; Lin & Lu, 2011; Seidman, 2013). Therefore a cross-sectional design with a standardised measure for testing the variation among a high number of respondents had the advantage of allowing them to examine the phenomenon at a single period without the potential effect of time ordering. In addition, given that several cases (i.e. respondents) were examined that had varying levels of the variables under investigation, this design enabled the authors to examine patterns of association between the aforementioned variables (Gangadharbatla, 2008; Lin & Lu, 2011; Seidman, 2013).

This study aimed to investigate patterns of association among several variables – namely, two personality traits (need for cognition and need for affect) and content preference (visual and verbal) on SNS – at a single point in time. As per the research design used by previous studies (Gangadharbatla, 2008; Lin & Lu, 2011; Seidman, 2013), this study explored the impact of varying levels of these aforementioned variables (e.g. high levels of NFC) and hence required several cases in order to encounter this variation. This was achieved given that the data was collected almost simultaneously from a number of cases in the sample using a uniform method of measurement throughout the process of data collection, which a cross-sectional design has the benefit of providing (Bryman, 2012). An outline of the cases used in this study, in terms of the sample, population and sampling method, are provided in the following section.

3.3 Population and sample

3.3.1 *Population*

The target population consists of the universe of cases from which a sample is selected (Bryman, 2012). Neuman (2014) describes it as the definitively specified group of many units from which a sample is drawn and to which the findings are generalised. Symon and Cassell (2012) recommend that the choice of participants should be based on the focus of the research, thereby allowing the researchers to meet their research aims and answer the research questions.

The target population for this study was as follows:

- **Age:** Respondents had to be adults (i.e. over 18 years old);
- **SNS usage:** Respondents had to use at least one SNS (Facebook, Twitter, Instagram, LinkedIn or Pinterest) once a month or more (excluding instant messaging applications such as WhatsApp);
- **National status:** Respondents had to work or study in South Africa

3.3.2 *Sample*

The sample consisted of 307 participants from various South African universities in the Gauteng and Western Cape provinces. The majority (62.2%) of the sample consisted of students from a graduate business school in Gauteng (Wits Business School), and approximately a third of the sample (30.9%) consisted of students from a large public university in the Western Cape (the University of the Western Cape). A small portion of the sample also consisted of students from other academic institutions in South Africa – the University of Cape Town (2.3%) and Cornerstone Institute in Cape Town (1.6%), and the University of the Witwatersrand Main Campus (0.7%) in Johannesburg – with the remainder (2.3%) of the sample being academic staff.

Most respondents were studying towards a post-graduate diploma/Honour's degree (45.9%), followed by a Master's degree/MBA (35.8%), bachelor's degree/ undergraduate studies (13.0%), PhD (2.0%) and other degree (1.0%), with the remainder (2.3%) not currently studying. In terms of the current faculty of those who were studying, two-thirds of participants (66.1%) were in the faculty of Commerce, Law and Management, followed by Health Science (16.9%), Humanities/Arts (12.1%), Science (0.7%) and other (2%). Amongst those that were students, most were studying part time (63.8%) whilst just over a third of respondents (36.2%) were studying full time. For further descriptive analysis of the respondents, please refer to Section 4.2 (Demographic profile of the respondents).

Prior studies that have investigated similar phenomena to this research have effectively utilised student samples. For example, Gangadharbatla (2008) and Amichai-Hamburger and Vinitzky (2010) conducted research to investigate the influence of various individual characteristics (motivational predispositions and personality traits respectively) of undergraduate college students on their SNS behaviour and attitudes. The authors mention the suitability of student samples for their research given that the majority of SNS users fall within their age group (18 to 30 years) and because they were more likely to be frequent users of a variety of computer-based communication functions (Amichai-Hamburger & Vinitzky, 2010; Gangadharbatla, 2008).

This study was able to benefit from using the approaches as specified by the aforementioned authors. The key advantage was that university students fall within the younger age bracket of the majority of SNS users in South Africa (TNS, 2012) and are likely to be frequent uses of various online functions, as mentioned in prior research (Amichai-Hamburger & Vinitzky, 2010; Gangadharbatla, 2008). Second, using a target population from two geographically different locations in the country (in terms of the Western Cape and Gauteng province) also helped to obtain a more varied and wider reach of respondents.

3.3.3 *Sampling method*

Sampling refers to the procedure of selecting units of observation (Babbie, 2013) or a collection of individuals on whom research is conducted (Wagner et al., 2012). Neuman (2014) refers to a 'sample' as small group of cases that a researcher picks from a larger group and uses to generalise to the population. In quantitative research, the sampling method can be based on one of two principles – probability sampling or non-probability sampling (Bryman, 2012).

This study utilised a non-probability sampling technique. This technique entails a sample that has not been chosen through random selection and as a result, some cases in the population have a higher chance of being chosen than others (Bryman, 2012). In addition, individuals tend to be involved in the study due to their availability and willingness to participate (Wagner et al., 2012). Neuman (2014) also notes that while a non-probability sampling technique is less accurate when a representative sample is required, it can be an acceptable alternative when probability sampling is impossible, impractical, too expensive or time consuming. Three types of non-probability sampling techniques are described for a quantitative research strategy – convenience sampling (also referred to as 'generic purposive sampling'); snowball sampling; and quota sampling (Bryman, 2012; Neuman, 2014).

Convenience sampling was utilised for this research, which is simply a sample that is chosen due to their availability to the researcher (Bryman, 2012) rather than their representative appropriateness (Symon & Cassell, 2012). Essentially the researcher selects anyone that they come across that meets the particular criteria (Neuman, 2014) and hence is the most expedient type of sampling possible (Wagner et al., 2012). For this study, the researcher had direct access to large student populations, in terms of being able to recruit students directly through particular courses on campus as well as obtaining the assistance of faculty members to email the online survey to class lists, and hence convenience sampling was used. It is also important to note sampling frames of the population on social network sites are not easily available and would likely be costly to obtain from the website managers or may likely be confidential. Therefore, a non-probability technique such as this provided the most efficient

way to find suitable respondents that would provide appropriate data that answered the research objectives.

Prior studies that have investigated similar phenomena to this study have effectively utilised the non-probability sampling techniques that was utilised. For instance, Zhong et al. (2011) and Chu and Kim (2011) conducted research to explore the relationship between SNS behaviour and specific personality traits. Non-probability sampling (specifically convenience sampling) were used and in both studies, students were recruited through a course that was open to large universities in the USA. The rationale for selecting this technique was that these students could be easily reached by the researchers and relatively large sample sizes could be gathered quickly and inexpensively (Chu & Kim, 2011; Zhong et al., 2011).

This study was able to obtain numerous benefits from using the non-probability techniques as specified by the authors above. First, the researcher had direct access to a large population of graduate students (Wits Business School) in Gauteng and a range of undergraduate and post-graduate students (the University of the Western Cape) to participate in the research. This provided several advantages. First, this study obtained a mixture of graduate and undergraduate studies from two geographically dispersed South African universities (University of Witwatersrand and the University of the Western Cape). This benefitted this study in terms of increasing a wider variety of respondents (in terms of demographic variables such as age and race for example) that were more likely to represent social network site users in the population, as per Chu and Kim (2011).

In addition, as per Gangadharbatla (2008), this study was open to all students within the aforementioned institutions (e.g. across various degree programmes and years of study, etc.) which also helped achieve a greater variation among respondents. Finally, given that this study was also exploring a relatively new research area in terms of the effect of individual characteristics on the usage of SNS (Chu & Kim, 2011; Hughes et al., 2012; Zhong et al., 2011), and limited time and funding was available to conduct the research, a convenience

sampling technique offered significant cost and time savings to this study (Bryman, 2012).

3.3.4 *Sample size*

The sample size refers to the number of individuals in the sample (Neuman, 2014). In quantitative research, a more representative sample is likely to be achieved through bigger samples, however ultimately sample sizes tend to be trade-offs between various considerations, such as time and cost constraints, the need for accuracy, etc. (Bryman, 2012).

A sample of 307 respondents was obtained for this research. This achieved sample size is larger than the rule of thumb of no less than 50 respondents for a correlation analysis or regression analysis (VanVoorhis & Morgan, 2007), the data analysis techniques that were utilised in this study, as described in Section 3.7. In addition, the sample size also fell within the approximate range of 200 to 400 respondents that was obtained in prior similar studies that utilised non-probability sampling with student samples, e.g. (Chu & Kim, 2011; Seidman, 2013; Zhong et al., 2011).

For the pen-and-paper questionnaire, the response rate was extremely high, with 85% of potential respondents that were asked choosing to participate in the study. Due to the use of convenience sampling for the online questionnaire, and given that it was distributed to a variety of students at different institutions through faculty administrators, the overall response rate for this component of the study is unknown. Specific details of the research instrument that was used to collect data from the sample are discussed in the following section.

3.4 The research instrument

A data collection instrument is specifically designed to elicit information that will be required for analysis (Babbie, 2013). According to Neuman (2014), this can be categorised into two groups depending on the type of data gathered - collecting data in the form of numbers (quantitative) or in the form of words or pictures (qualitative). As previously mentioned, quantitative research strategy

was used for this study. Bryman (2012) identifies three main types of data collection instruments for quantitative research – interviewing, observation and self-completion questionnaires.

This study utilised a self-completion questionnaire (also referred to as self-administered questionnaire) for data collection. Questionnaires are a technique that broadly falls within survey research – which involves asking a sample of many respondents the same questions, in order to measure several variables and simultaneously test multiple hypotheses (Neuman, 2014). This data collection instrument is administered without the assistance of an interviewer (Bryman, 2012) and therefore, the participants must read the questions in the questionnaire and record the answers themselves (Neuman, 2014). Self-administered questionnaires come in several forms, including mail (postal) surveys; group-administered; and e-mail and internet surveys (Babbie, 2013; Wagner et al., 2012). The main advantages of this type of data collection instrument as described by Bryman (2012) are – cheaper to administer; quicker to administer; absence of interviewer effects (particularly social desirability bias); no interviewer variability; and convenience for respondents. Given these benefits, a self-administered questionnaire was used in this study. The structure of the data collection instrument is discussed below.

3.4.1 *Structure of research data collection instrument*

Research data collection instruments vary in their structure. Overall, three structures of data collection instruments are described by Bryman (2012) – unstructured, semi-structured, and fully structured. Quantitative research is generally highly structured, such that the researcher is able to evaluate the specific concepts and topics that are the focus of the study (Bryman, 2012).

This study utilised a fully structured data collection instrument. This consists of an instrument where all questions asked have been pre-determined and asked in the same order with all participants (Wagner et al., 2012) with the aid of a formal interview schedule or questionnaire (Bryman, 2012). A fully structured approach has the benefit of facilitating simpler organising, comparison and analysis of data (Symon & Cassell, 2012) and guarantees consistency among

bigger samples (Wagner et al., 2012). Finally, a structured approach provides responses that can be quickly coded and processed (Bryman, 2012). Based on these characteristics and advantages, a fully structured data collection instrument was used for this study – specifically, a fully structured self-completion questionnaire.

Prior studies that have investigated similar phenomena to this research have effectively utilised a fully structured self-completion questionnaire. For example, Zhong et al. (2011), Hughes et al. (2012) and Chu and Kim (2011) conducted research to explore the determinants of various SNS behaviours. A fully structured self-completion questionnaire was administered in order to gather standardised quantitative data from a large number of respondents (Bourque & Fielder, 2003). The ability to gather information on numerous dimensions of interest and maintain consistency and quality of data collection were the main advantages offered by this technique, and was beneficial to this study. Also, a large volume of questionnaires could be distributed and completed efficiently and relatively inexpensively (Bourque & Fielder, 2003). Finally, given that the respondents were answering personal and potentially sensitive questions, they were more inclined to answer honestly since they were not under pressure to give socially desirable responses to an interviewer (Chung & Monroe, 2003). Similarly, this study contained some relatively personal questions, and so these benefits were also derived in this research. The specific items that were asked in the research instrument are outlined in the next section.

3.4.2 *Research instrument items and source*

The research instrument consisted of five sections. Section 1 contained three screening questions; Section 2 consisted of five questions on SNS usage and preference; Section 3 contained the two predictor variables (NFC & NFA scale); Section 4 contained the outcome variables of the research (visual and verbal content preference on SNS); and Section 5 consisted of ten demographic questions. The questionnaire duration was approximately 10 to 15 minutes. It should be noted that all of the scales for the predictor variables and outcome variables were ordinal – i.e. numeric data that has been grouped into classes

(Maree, 2007) that are ranked according to a specific aspect (Blanche, Durrheim, & Painter, 2006). Please see Appendix B and C for the pen and paper and online survey versions of the questionnaire.

Section 1: Screening questions

Three questions (Q1 –Q3) were asked to ensure that the respondents qualified to participate in the research:

- **Age:** Respondents needed to be adults (i.e. above 18 years old)
- **SNS usage:** Use at least one SNS (Facebook, Twitter, Instagram, Pinterest or LinkedIn) once a month or more often (not referring to instant messaging applications such as WhatsApp)
- **National status:** Study or work in South Africa

Section 2: SNS usage, behaviour and preference

Once it was established that the respondent qualified to participate in the research, five questions (Q4 – Q7b) were asked to provide context on the respondents' SNS usage, behaviour and preference. This included how frequently each SNS is used (Q4); how long each SNS has been used for (Q5); and which device is mainly used to access each SNS (Q6); and which SNS is preferred the most (Q7a) and the least (Q7b).

Section 3: Predictor variables (NFC and NFA)

The predictor variables of the study consisted of the personality traits 'need for cognition' (NFC) and 'need for affect' (NFA) as per Question 8 and 9 in the questionnaire (see Appendix B and C). These variables were assessed using the measures outlined below.

Need for cognition (NFC)

- *Measurement instrument source:* The original NFC scale was developed by Cacioppo and Petty (1982) and consists of 34 items that measure the extent to which individuals search for and tend to use cognitive information for situation-invariant decision processing. The subsequently reduced scale

with 18 items (Cacioppo, Petty, & Feng Kao, 1984) was used in this study - please refer to Q8 in Appendix B and C for the list of items.

- *Measurement instruments scale:* The scale contains 9 positively worded items such as *"I would prefer complex to simple problems,"* and 9 negatively worded items such as *"I like tasks that require little thought once I've learned them"*. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was utilised in measuring all these items, as per a previous study by Haddock et al. (2008). A higher score on the positively worded items (and low score on the negatively worded items) gave an indication of a higher NFC in their personality, and vice versa for a lower NFC. As per a study by Haddock et al. (2008) on the persuasive effect of affective and cognitive messages, in order to calculate an aggregate score for NFC for each respondent, the scores of the negatively worded items were reverse coded and summed with the scores of the positively worded items, with higher aggregate scores indicating a higher NFC.
- *Measurement instrument validity and reliability:* This scale is well established and widely used in personality trait research, and the usefulness and validity of the construct has been demonstrated and tested in subsequent research (Cacioppo et al., 1996; Cacioppo et al., 1984; Lord & Putrevu, 2006). For instance, in testing by Sojka and Giese (1997), this scale exhibited a high Cronbach alpha (0.85) which demonstrates a high levels of internal consistency (Maree, 2007). A study by Sadowski and Gulgoz (1992) also found the measure to have excellent test–rest reliability (α = .88).

Need for Affect (NFA)

- *Measurement instrument source:* The NFA scale was developed by Maio and Esses (2001) and consists of 26 items to gauge an individual's desire to approach or avoid emotion-inducing situations (with 13 items respectively to measure motivation to approach or avoid emotion). This study however used the subsequently reduced scale with 10 items

developed by Appel et al. (2012) - please refer to Q9 in Appendix B and C for the list of items.

- *Measurement instruments scale:* The reduced NFA scale contains five positively worded "approach" items such as *''I think that it is important to explore my feelings,''* and five negatively worded "avoidance" items such as *''I find strong emotions overwhelming and therefore try to avoid them".* A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was utilised in measuring all these items, as per the NFC scale. Similarly, a higher score on the positively worded items (and low score on the negatively worded items) gave an indication of a higher NFA in their personality, and vice versa for a lower NFA. As per Haddock et al. (2008), in order to calculate an aggregate score for NFA for each respondent, the scores of the avoidance items were reverse coded and summed with the scores of the approach items, with higher aggregate scores indicating a higher NFA.
- *Measurement instrument validity and reliability:* The original NFA measure by Maio and Esses (2001) has shown excellent test–rest reliability (α = .85) as well as convergent and discriminant validity supported by correlations with other constructions (Leone & Presaghi, 2007). Strong support has also been found for the viability of the reduced form of the NFA (e.g. internal consistency scores showed acceptable reliability of α = .80 for the total scale; validity correlations with the original scale exceeded *r* = .92 despite the considerable reduction in length (Appel et al., 2012).

Section 4: Outcome variables (Content preference on SNS)

- *Measurement instrument source*: Preferences for verbal and visual content on SNS, was measured by adapting the Style of Processing (SOP) scale developed by Childers et al. (1985) which consists of 22 items, with 11 items respectively that measure a visual or verbal processing style. The scale was originally developed to measure propensity to engage in verbal and/or visual processing when carrying out different mental tasks - please refer to Appendix A. In this study, the scale was split into two sub-scales,

which each focused on measuring participants' style or manner of engaging with regard to either verbal (Q10) or visual (Q11) content-related activities on SNS. In addition, the number of items of the scale was reduced to ensure that only items that are relevant to SNS activities were retained - please refer to Q10 and Q11 in Appendix B and C.

- *Measurement instruments scale:* The modified verbal and visual sub-scales contained items such as *"I enjoy reading longer, descriptive articles and posts on social network sites"* (verbal content preference) and *"I enjoy posting original photos or videos that I have taken or created on social network sites"* (visual content preference). A five-point Likert scale ranging from 1 (Never) to 5 (Always) was utilised in measuring propensity to participate in verbal and visual content-related activities on SNS. Respondents that rated an aggregate higher score on the visual sub-scale items (with negatively worded items reverse coded) provided an indication of visual content preference on SNS. Similarly, respondents that rated a higher aggregate score on the verbal sub-scale items (with negatively worded items reverse coded) provided an indication of verbal content preference on SNS (Childers et al., 1985).
- *Measurement instrument* validity and reliability: The original SOP scale exhibited high reliability in prior use (Cronbach alpha of 0.88), with satisfactory reliability coefficients of 0.72 for the visual component and 0.73 for the verbal component. In addition, correlations of the SOP with other measures of processing style showed evidence of discriminant validity and criterion validity (Childers et al., 1985). The viability of the adapted scale for this study was assessed to establish whether it exhibits satisfactory levels of reliability and validity (see the Section 3.8).

Section 5: Demographic variables

Finally, ten demographic questions (please refer to Q12-Q18 in Appendix B and C), including race, gender, work status, current studies (academic institution, degree, faculty and full-time/part-time) and personal monthly income, were included in the survey to provide a descriptive profile of the respondents.

3.5 Procedure for data collection

3.5.1 *Questionnaire distribution and collection method*

Data collection consists of gathering data from the sample in order to answer the research questions (Bryman, 2012; Wagner et al., 2012). There are various modes of research data collection (Bryman, 2012), including participant observation or ethnography; interviews (face-to-face, telephone, or internet-based); self-administered questionnaires (e.g. mail/postal surveys; group-administered; and e-mail and internet surveys) (Babbie, 2013; Wagner et al., 2012); focus group discussions; and documents. For quantitative research, Neuman (2014) describes data collection as quite a systematic, pre-determined process, which entails carefully recording and validating information, usually in numeric form.

This study utilised two forms of data collection – an online questionnaire (also referred to as a 'web survey') which was designed on the survey software programme called Qualtrics – and a pen-and-paper self-administered questionnaire through personal direct distribution. Data was collected over a one month period (11 April to 13 May 2016). For the online survey, students were invited to participate in the research via an e-mail which contained a link to the online survey. For the pen-and-paper questionnaire, hard copies of the survey were distributed to students in various lectures on campus (mainly post-graduate business courses at the Wits Business School and post-graduate psychology courses at the University of the Western Cape) and completed in the classrooms. The rationale for using these methods is outlined below.

In terms of web surveys, these questionnaires function by inviting potential participants to visit a website where the questionnaire is located and can be completed online (Bryman, 2012). Web surveys offer numerous benefits that were gained in this study. First is the cost advantage, since there are hardly any administrative expenses, compared to paper-based surveys for instance which usually include printing and posting costs (Wagner et al., 2012). In addition, web surveys offer flexible design and can include various

embellishments such as visual images or even videos and audio (Neuman, 2014). Bryman (2012) mentions that web surveys can be designed so that when there is a filter or routing question, it automatically skips or redirects the respondent to the next appropriate question. Finally, data is automatically captured and can be programmed to download directly into a database for analysis, thus removing the time consuming task of coding many questionnaires (Bryman, 2012) and also eliminating the possibility of transcribing errors (Neuman, 2014).

Prior studies that have investigated similar phenomena to the current research have mainly used online questionnaires that were sent to students via e-mail invitation containing the survey link, e.g. (Ross et al., 2009; Seidman, 2013; Zhong et al., 2011). However, these studies were primarily conducted in more developed countries such as the USA, where internet access is higher (87% of the population) than in South Africa (41% of the population) (Pew Research Centre, 2015). Therefore, a second data collection method in the form of pen-and-paper self-administered questionnaires was provided for respondents that do not have an internet connection. This approach was also more conducive in terms of respondent accessibility, as mentioned in a similar study conducted by Gangadharbatla (2008), which also utilised pen-and-paper surveys. In addition, response rates for online surveys tend to be lower than for pen-and-paper questionnaires (Nulty, 2008) and given the time constraints of the study, using the latter method in conjunction with the online version assisted in faster data collection.

A pen-and-paper self-administered questionnaire method also offered numerous advantages, as described by Bourque and Fielder (2003) below:

- No interviewer error - no possibility of interviewer bias since the respondent completes the survey unaided
- Cost savings – less expensive than face-to-face interviews because they do not involve employing and training experienced interviewers
- Greater efficiency – a large volume of surveys can be distributed all at once, resulting in less administrative time

- Anonymity – the respondent is assured of confidentiality and anonymity, and therefore more likely to give honest answers rather than socially desirable responses if they were being interviewed (Chung & Monroe, 2003). The respondents were further encouraged through phrasing the questions in as unthreatening or non-judgmental way as possible, and also encouraging the respondents throughout the questionnaire to answer as honestly as possible.

3.5.2 *Ethical considerations*

Ethical issues must be taken into account at each step of the design and implementation of research (Wagner et al., 2012) and often require the researcher to balance the quest for scientific knowledge with the rights of the subjects being studied (Neuman, 2014). Bryman (2012, p.135) discussed four main ethical principles that recur in social research, namely "whether there is harm to the participants; whether there is a lack of informed consent; whether there is an invasion of privacy; and whether deception is involved." Below is a description of how the ethical considerations were adhered to in this study, in terms of the ethical issues described by Bryman (2012).

Ethical issue: Deception

- Deception includes issues around self-declaration and refers to instances when the researcher does not fully represent their work as what it is, often in order to constrain the participants' understanding of what the study is about in order for them to respond more naturally (Bryman, 2012).
- **Disclosure** – in order to counter this, the study provided the participants with information about the researcher and the aim of the study prior to the start of the questionnaire, as per the cover letter included at the beginning of the questionnaire (please refer to Appendix B and C). The respondents were not deceived in any way regarding the purpose of the research, including as Neuman (2014) describes, what is expected of them as participants. In addition, the author of this study had a strictly academic interest in this research and there were no sponsors of this study. Therefore, the author did not stand to gain any commercial benefit through the research and

respondents were therefore informed that the research was being conducted for academic purposes only.

Ethical issue: Harm

- The main responsibility of the researcher is to ensure that the no harm befalls the participants as a result of their involvement in the study (Wagner et al., 2012). The term harm can refer to numerous facets, from physical harm; developmental harm; and loss of self-esteem (Bryman, 2012) to harming the respondent legally, economically, etc. (Neuman, 2014).
- **Ethical committee clearance** – The Wits Business School Faculty Academic Ethics Committee reviewed the research proposal and questionnaire and granted ethical clearance before the research was conducted, particularly to ensure that no harm would befall respondents.

Ethical issue: Informed consent

- Wagner et al., (2012, p.68) describes "The guiding principle of informed consent is an individual's personal right to agree (or not) to participate in a research study after fully understanding the total research process and consequences."
- **Voluntary participation** – respondents were informed of the pertinent details of the research and that participation in the study was completely voluntary. A cover letter explaining this was included at the beginning of the questionnaire (please refer to Appendix B and C).

Ethical issue: Invasion of privacy

- Protection of privacy refers to efforts made to preserve the integrity of the data collected, particularly with regards to information gathered from the participants in the research (Blanche et al., 2006)
- **Anonymity and confidentiality** – respondents were required to provide potentially sensitive personal information (such as their demographic information, personality characteristics, etc.). Respondents were therefore not asked to reveal their names or information that could make them easily

identifiable (such as their ID number or student number), as specified in the cover letter on the questionnaire (refer to Appendix B and C)

- **Securing the data** – from a data storage perspective, all the processed questionnaires were stored electronically and the file was encrypted with password protection in order to secure the raw data.

3.6 Pilot research

Pilot studies are preliminary field tests conducted with small research samples that are used to detect potential issues with the research design, especially the research instrument (Blanche et al., 2006). For this research, a pilot study was conducted before the main data fieldwork collection in order to obtain feedback from respondents regarding their comprehension of the questions and to identify any other issues with completing the survey. The reliability and validity (face and content validity) of the research measurement was also assessed, as recommended by Radhakrishna (2007).

3.6.1 *Methodology of the pilot research*

The pilot survey was administered to a convenience sample of students at the Wits Business School and Vega School of Brand Leadership in Gauteng. The pen-and-paper questionnaire was distributed to students in a post-graduate finance course and an undergraduate brand communication course respectively. Respondents were informed about the details of the research and that they formed part of a pilot study, and were asked to share their feedback directly with the researcher after completing the questionnaire.

As recommended by Blanche et al. (2006), the participants matched the sample specifications stipulated for the study. Following generally accepted pilot study guidelines as mentioned by Hertzog (2008), the pilot sample size was 10% of the projected sample size of 300 respondents for the main data collection study, resulting in a sample of 30 students (10 students from Wits Business School and 20 from the Vega School of Brand Leadership).

3.6.2 *Feedback from the pilot research*

The feedback received from the pilot was as follows:

Comprehension: Overall, the respondents mentioned that they found the survey to be quite straightforward and understandable. A couple of respondents did indicate that some words or phrases in the need for cognition scale (Q8) were slightly challenging to understand (e.g. *"deliberating"* and *"notion of thinking abstractly"*). However given how well established this scale is and that the majority of respondents did not have an issue with this question, combined with the high reliability results in the pilot (as discussed in the following section), the wording was therefore retained as per the original 18-item scale by Cacioppo et al. (1984).

Length: A few respondents mentioned that some of the questions and/or items were too long, particularly for Q8 (Need for Cognition) which appeared quite daunting as it took up an entire page. However given that the shorter version of the NFC scale (18 items rather than the original 34 items) and NFA scale (10 items instead of 26 items) were already being used in the questionnaire, and since both shortened scales had established reliability and validity in previous studies, it would not be prudent to try to reduce the scales further.

As a result, it was decided to streamline the format and layout of the questionnaire to be more visually appealing for respondents and appear shorter. For instance, the Need for cognition scale (Q8) was divided over two pages (rather than having the entire scale all on one page) and some single response questions (e.g. Q7a/b SNS preferred most/least) were positioned horizontally rather than vertically in order to take up less space. As a result of formatting the survey, the length was reduced from 7 pages to 6 pages (excluding the cover page) without the removal of any questions or items.

3.6.3 *Reliability and validity results of the pilot research*

Reliability

As indicated in Table 2 below, the personality trait scales (Q8 and Q9) that were directly adopted from prior studies exceeded the criteria for satisfactory reliability (i.e. Cronbach's Alpha scores greater than 0.7). However the verbal and visual content preference scales (Q10 and Q11) which were adapted from the Style of Processing (SOP) Scale (Childers et al., 1985) to be relevant for the social network site context, did not seem to produce reliable scores in the pilot study.

However, given the small sample size of the pilot study and the fact that removing some of the items did improve the Cronbach's Alpha scores (although not to the minimum level of 0.7 in the case of Q10), no major changes were made to the items for the final survey. Furthermore, not having established reliability of the adapted scales was identified as a potential limitation of the study in the proposal, and so these reliability results were not entirely unexpected. Finally, given the somewhat exploratory nature of the study in terms of assessing whether the SOP scale could be adapted for the SNS context, these reliability results form part of the findings of the pilot study and the research overall and therefore the items were maintained for the main data collection survey.

Table 2: Reliability results of pilot study

Qu.	*Construct*	*n*	*# Items*	*M*	*SD*	*α*
Q8	Need for cognition (NFC)	28	18	62.71	9.05	0.837
Q9	Need for affect (NFA)	30	10	32.87	6.60	0.786
Q10	Verbal content preference	29	6	16.24	3.07	0.479
Q11	Visual content preference	30	6	20.37	3.86	0.563

Note: Qu= Question number; n=valid cases; # = number of.; M=mean of scale; SD=standard deviation of scale; α = Cronbach Alpha (on standardized items)

Face validity and content validity

Face validity refers to whether the appearance of the measure as a whole seems effective at covering what it is supposed to measure (Maree, 2007). Similarly, content validity refers to the extent to which the items on the research instrument reflect all the different aspects of the particular constructs being studied (Maree, 2007). It is not possible to test the degree of face validity and content validity quantitatively or explicitly (Maree, 2007), however the research topic in terms of social network site content preference was thoroughly discussed with members of a digital marketing agency, Search Online Consulting (SOC) including the Director, Head Researcher & Strategist, and Social Media Manager. In addition, the research instrument was reviewed and scrutinised by the research supervisor to ensure that this type of validity was high, and the instrument was amended accordingly.

3.7 Data analysis and interpretation

3.7.1 *Data processing*

Data processing refers to transforming collected information into 'data', and in quantitative research, this usually means that some variables will need to be prepared for quantification (Bryman, 2012). Neuman (2014) emphasises that data processing involves several steps in order to assess what the raw data says about the hypotheses – reordering into an appropriate format for computer entry; presenting them visually (such as in graphs) to summarise their characteristics; and explaining or giving theoretical meaning to the findings. Prior to this however, the raw data are disorganised, may include errors and missing values and must be transformed before it can be analysed – this preparation of data entails three tasks: (1) coding, (2) entering, and (3) cleaning (Blanche et al., 2006; Neuman, 2014) as described in the subsequent section.

Step 1: Data coding

The first step of quantitative data processing usually involves coding the information, with the purpose of this task being to reduce a wide range of

unique items of information into a more narrow set of attributes comprising a variable (Babbie, 2013). Coding involves transforming the answers provided on a questionnaire into a meaningful numerical format (Blanche et al., 2006). The researcher creates a set of rules to assign numbers to the particular attributes of a variable, so that the raw data is in a format that makes it easy to conduct statistical analysis using computer software (Neuman, 2014).

This study utilised a web survey and pen-and-paper self-administered questionnaire for data collection, and so the data for the latter method needed to be manually coded, whereas for the web survey this was done automatically by the survey software programme online. In order to assist with the manual coding process, the response categories were pre-coded beforehand, particularly since all of the questions in the questionnaire were closed ended. Therefore, on a five point Likert scale for instance, the answer option for the respondents' selection of "Strongly Agree" was pre-coded as the number "5"; "Agree" as "4", etc. This technique is operationalised as developing the features of a code book, such that the coding frame for each question was pre-established (Neuman, 2014).

It should also be noted that any missing values were coded in accordance with the convention used on SPSS software, with empty cells containing a small dot (van den Berg, 2013). After data collection, additional codes were created for sensitive demographic questions, where respondents indicated that they did not want to divulge certain information (as opposed to leaving the question blank by error). This occurred for Q13 (Ethnic group) and Q14 (Work status) and the researcher created a code 6 for the response "I prefer not to say".

Step 2: Data entry

Data entry involves converting the numerical codes assigned and recorded on a questionnaire into a format that can be used by a statistical computer package (Blanche et al., 2006), so that the computer can read and manipulate the data (Babbie, 2013). Neuman (2014) describes four ways that raw quantitative data can be entered into a computer – (1) code sheet (2) direct-

entry method, including computer-assisted telephone interviewing (CATI) (3) optical scan (4) bar code.

The numerical data from the pen-and-paper self-administered questionnaire was entered manually from the pre-coded questionnaires into a Microsoft Excel spreadsheet (i.e. direct-entry method). As described by Blanche et al. (2006), each row in the spreadsheet represented an individual respondent (i.e. case) and each column represented the response to a particular variable (i.e. questionnaire item). For the online survey, data entry occurred automatically and simultaneously during the process of data collection, given that participants entered their own responses directly into the storing database, without the requirement of an intervening interviewer or data-capturer (Babbie, 2013).

Step 3: Data cleaning

After meticulous coding and entering the data into a computer, the researcher must check for errors, as these can easily occur and make the results of the study invalid if not eliminated (Neuman, 2014). This final stage in data preparation comprises inspecting the dataset for errors and thereafter correcting these errors (Blanche et al., 2006).

From the initial questionnaire and data checks, it should be noted that of 151 online surveys originally completed – 13 respondents did not qualify to participate in the research, 1 respondent did not complete the entire survey and 1 case was subsequently removed from the dataset for being incorrectly completed – resulting in 136 correctly completed online surveys. For the pen-and-paper questionnaires, there were originally 179 respondents – however, 4 respondents did not qualify to participate in the research, 2 respondents did not complete the entire questionnaire and 2 cases were subsequently removed from the dataset for being incorrectly completed. As a result there were in 171 completed pen-and-paper questionnaires, resulting in a total number of 307 correctly completed questionnaires.

Neuman (2014) describes two types of data cleaning to verify coding after data entry into the computer – possible code cleaning and contingency cleaning. The former entails checking the categories of all variables for unfeasible codes,

and the latter involves cross-checking two variables and looking for combinations that would be logically impossible (Neuman, 2014). Blanche et al. (2006) recommends that 10% to 15% of the cases in the dataset are checked for these types of errors. Accordingly, the researcher randomly selected and manually checked 48 of the 307 surveys (i.e. 15.6% of the cases) for errors. Filters were also included in the Microsoft Excel spreadsheet in order to assist with these checks to help identify errors and missing cases.

Thereafter, Blanche et al. (2006) suggests that if there are no errors, a second check be conducted, by running a summary of the frequency tables of all the variables on SPSS. This is mainly conducted in order to check for impossible codes which, if invalid, can be manually corrected (Blanche et al., 2006). The researcher conducted these checks on SPSS and manually corrected a handful of instances where impossible codes and combinations of two variables occurred – for instance, a respondent indicating their exact age as 50 years in Q1b, but their age group as code 4 (i.e. 35 - 44 years) in Q1a.

It should be noted that for the component of online surveys utilised in the study, data coding errors were greatly reduced through the use of instructions and rules that were included in the questions via the online survey software (Bryman, 2012; Qualtrics, 2015). For instance:

- **Single response questions** – for questions that only require one answer, the respondents could not give more than one response
- **Routing and filters** – were included so that no question which should have been skipped contained an answer, and therefore respondents could only answer relevant questions (for instance, only respondents that indicated their age group as 18 years or older in Q1a were able to continue with the questionnaire)
- **Blank/missing entries** – respondents were prompted to record their response if they did not answer a question (or one of the items) before they could move onto the next question.

3.7.2 *Research data analysis*

Once the collected data are in an appropriate format, data analysis involves interpreting that data in order to draw conclusions that reflect the ideas, interests and theories that initiated the research (Babbie, 2013). In quantitative research, the researcher utilises several data analysis techniques, usually through the use of computer software (Neuman, 2014) to condense the volume of data collected and to test for associations between variables (Bryman, 2012). In addition, software is used to create ways of presenting the analysis results to others (Bryman, 2012) in various visual formats (such as graphs and tables) and statistical measures (Neuman, 2014). There are a number of different methods a researcher can use to analyse quantitative data, ranging from more basic analysis (such as univariate analysis) to more complex, multivariate analysis (such as factor analysis, cluster analysis, multiple linear regression, structural equation modelling, etc.) (Babbie, 2013; Blanche et al., 2006; Wagner et al., 2012).

Statistical analysis of the data was conducted in several steps on SPSS with the assistance of an Associate Professor in Decision Science and Research Methodology at the Wits Business School. First, a correlation analysis was conducted to determine whether there are significant correlations between the predictor variables (NFC and NFA) and the outcome variables (visual and verbal content preference on SNS) as per similar prior research by Sojka and Giese (2001).

Thereafter, standard multiple regression analysis was utilised to test the hypotheses. This statistical technique is used to indicate how much of the variance in each of the dependent variables is explained by the independent variables collectively and individually (Blanche et al., 2006). The advantages of this technique is that it is able to tell which specific independent variables are significantly related to the dependent variable, as well as the direction and strength of the relationship between the variables in the model (Maree, 2007).

Of the various multivariate techniques used in the social sciences, multiple regression analysis is one of the most popular (Blanche et al., 2006). A growing

number of studies that have investigated similar phenomena to this research report have effectively used multiple regression analysis for the analysis of data. For instance, Amichai-Hamburger and Vinitzky (2010), Zhong et al. (2011) and Seidman (2013) conducted multiple regression analysis to evaluate the relationship between various personality traits (as predictors or independent variables) and certain aspects of SNS usage and behaviour (as dependent variables). Regression analysis was used to test the direction of the association between the variables (i.e. were they positively or negatively related as hypothesised) as well their statistical significance. Overall, these techniques allowed the authors to support (or disconfirm) their hypotheses (Amichai-Hamburger & Vinitzky, 2010; Seidman, 2013; Zhong et al., 2011)

In this study, two multiple regression analyses were run. In one analysis, research sub-problem 1 (hypotheses 1 and 2) were tested, with visual content preference entered as a dependent variable in the model. For the other analysis, research sub-problem 2 (hypotheses 3 and 4) were tested, with verbal content preference entered as a dependent variable in the model. For both analyses, the independent variables were the personality traits NFC and NFA.

Finally, analysis of variance (ANOVA) and t-tests were used to test whether the groups within the independent variables (e.g. high NFC vs. high NFA) and demographic variables (e.g. males vs. females) have different average scores on the quantitative dependent variable (visual/verbal content preference on SNS) (Maree, 2007).

3.7.3 *Statistical software approach*

Statistical analysis of the data was conducted in several steps on Microsoft Excel and IBM SPSS Statistics 23, as outlined below:

Microsoft Excel: Data capturing and cleaning

SPSS 23: Descriptive statistics and multivariate analysis

- Import data from Excel

- Conduct data transformation and descriptive statistical analysis (e.g. profiling respondents, frequency tables, etc.)
- Multivariate analysis: to determine how much the independent variables account for the variance in the dependent variables and also to test the hypothesised relationship between each of the predictor variables and the dependent variables (refer to Section 3.7.2, Research data analysis).
- Reliability and validity analyses of the data were also applied, as described below

3.8 Validity and reliability

Essential criteria in ascertaining and evaluating the quality of research are reliability and validity measures (Bryman, 2012). These ideas assist in determining the truthfulness, credibility, or believability of research results (Neuman, 2014). For this study, the predictor variables – need for cognition (Cacioppo et al., 1984) and need for affect (Appel et al., 2012) consisted of scales that were directly adopted from previous research, and their reliability and validity have been well-established (please refer to the *Research Instrument items and source* in Section 3.4.2). The outcome variables (visual and verbal content preference on SNS) were adapted from previous research (Childers et al., 1985) and so it was particularly important to establish their reliability and validity, as outlined below.

3.8.1 *Validity*

The validity of an instrument refers to the extent to which it measures what it is supposed to measure (Maree, 2007). When validity is absent, it means that the fit between the constructs used to measure social reality and what actually happens in the social world is poor (Neuman, 2014). Bryman (2012) refers to several ways of determining validity; however the four main types for a quantitative research strategy are external validity, internal validity, measurement (or construct) validity, and ecological validity. These validating measures were checked in the study as subsequently discussed.

3.8.2 *External validity*

External validity refers to whether the study findings can be generalised beyond the particular research setting (Bryman, 2012) or externally to a broader context and many other groups of people (Neuman, 2014; Wagner et al., 2012). Given that convenience sampling was used in the study and the respondents were mainly university students, external validity is likely to be limited, as per similar research by Zhong et al. (2011), Gangadharbatla (2008), etc. Thus the results may not accurately represent the behaviours and characteristics of the broader SNS user population in South Africa, which presents a limitation to the research. However, given that respondents were obtained from two geographically different locations in the country (in terms of the Western Cape and Gauteng province) – and also that the students consisted of an assortment of faculties, degree programmes and demographic characteristics – helped to obtain a more varied sample and improve the external validity of the study.

3.8.3 *Internal validity*

Internal validity is an important validity measure in experimental research and refers to the possibility that errors inherent in the research design have resulted in conclusions being drawn from the experimental results that may be false (Neuman, 2014; Wagner et al., 2012). For a quantitative research strategy in particular, Bryman (2012) describes that internal validity is concerned with whether the findings that involve a causal relationship between variables can be assured. As per research by Chu and Kim (2011), this study utilised a self-administered questionnaire. Given this approach, the outcome variable could not be controlled by the researcher (as per an experimental design) and therefore, causality between the variables can only be inferred (and not established). This therefore restricted internal validity in this study, and was therefore a limitation, as noted in a similar study by Chu and Kim (2011).

3.8.4 *Measurement validity/construct validity*

Measurement validity, also referred to as ‘construct validity’, is a shorthand term for numerous types of validity (Bryman, 2012). It broadly refers to how well

an indicator and theoretical construct of that indicator 'fit' together (Neuman, 2014) and the degree to which the operationalisation of constructs correspond with the conceptual constructs being measured (Wagner et al., 2012).

In this research, it was particularly important to assess two sub-types of construct validity – convergent validity and discriminant validity (Campbell & Fiske, 1959) – particularly for the adapted measure content preference on SNS given that these have not been established. As recommended by Trochim (2006), this was tested via correlation analysis on SPSS, as outlined below:

Convergent validity: Refers to the extent to which a measure is related with other theoretically similar measures (Campbell & Fiske, 1959) and whether the items converge to measure the same construct (Trochim, 2006). In this study, convergent validity was assessed by checking the inter-correlations among the measures, as suggested by Trochim (2006). As shown in Appendix D, the inter-correlations between the majority of the items for verbal and visual content preference were significant, indicating that the items in the scales likely measure the same construct. Therefore convergent validity for these constructs is generally supported.

Discriminant validity: Tests whether concepts or measurements that should not be related, are in fact, unrelated (Campbell & Fiske, 1959) and tests that a construct or measure is truly distinct from another construct (Trochim, 2006). In this study, discriminant validity was assessed by examining bivariate correlations of the aggregate scores (Table 3) as well as the individual items (Appendix D) for verbal versus visual content preference. As previously mentioned, prior studies have supported the notion that a verbal style of processing should be distinct from a visual style (Mendelson & Thorson, 2004; Sojka & Giese, 2001), correlation analysis was used as an estimation of discriminant validity, as suggested by Trochim (2006).

The results generally indicate very weak correlations between the pairs of variables, which are also not significant. At an aggregate level, as shown in Table 3 overleaf, very small positive correlations, which were not significant, were found between verbal and visual content preference (r = .04, p = .47),

which indicates that the two measures are discriminated from each other. Slightly stronger discrimination is found between the correlations of the variables for the averages scores than on the bivariate correlations of the individual items (as per Appendix D), both however provide sufficient evidence of discriminant validity for the constructs.

Table 3: Bivariate correlations of verbal and visual content preference (aggregate scores)

Variable	*Verbal Content Preference*	*Visual Content Preference*
Verbal Content Preference	-	
Visual Content Preference	.041	-

Note: n=307 for all correlations tested

3.8.5 *Ecological validity*

Ecological validity refers to the extent to which the research findings can be appropriately generalised to another context (Wagner et al., 2012), particularly in terms of people's natural, daily social settings in the case of quantitative research (Bryman, 2012).

From a theoretical perspective, identifying the interrelationship of the variables in the research model could add to the growing body of knowledge on this topic within consumer behaviour. Over and above this, from a practical perspective, as per studies such as Gangadharbatla (2008), the results of this study could provide applicable insights to marketers. For instance, the design of campaigns and content for SNS that are more likely to be processed and engaged with because the format is consistent with the individual's personality and processing preferences. In addition, the rise of a visual revolution online is a phenomenon that has not just been identified within South Africa (World Wide Worx & Fuseware, 2014b) but globally as well (Allen et al., 2012; Brennick, 2014; Leposa, 2013). Therefore, the findings of this study may be an early attempt at addressing a growing worldwide trend in the social network site field.

3.8.6 *Reliability*

Reliability refers to the dependability or consistency of measures, in terms of the degree to which the findings are repeatable (Neuman, 2014; Wagner et al., 2012) such that when it is used again or administered to different participants from the same population, it produces the same findings (Maree, 2007). Bryman (2012) and Wagner et al. (2012) describe three major factors involved in assuring the reliability of a measurement – stability; internal reliability and inter-observer consistency.

The reliability of the measures for the study were tested by assessing the coefficient values (namely Cronbach's alpha) with higher (over 0.7) indicating satisfactory levels of reliability (Maree, 2007). As shown in the last column of Table 4, the Cronbach's Alpha scores for the personality traits NFC (α = .85) and NFA (α = .77) exceeded the criteria for satisfactory reliability, and were consistent with the values achieved in previous studies (Appel et al., 2012; Sojka & Giese, 1997).

The values of the content preference constructs were just below the acceptable criteria, as well as slightly lower than the reliability coefficients of approximately α = .72 found in previous studies for the visual processing and verbal processing subscale (Childers et al., 1985; Sojka & Giese, 2001) However both constructs were able to meet this criteria when specific items were removed from the analysis (please refer to Appendix E). The next chapter presents the overall findings of the study.

Table 4: Reliability results of main data collection

Construct	*n*	*# Items*	*M*	*SD*	*α*
Need for cognition (NFC)	295	18	67.36	9.10	.85
Need for affect (NFA)	304	10	35.36	5.33	.77
Verbal content preference	304	6	17.72	3.78	.69
Visual content preference	305	6	17.58	3.74	.57

Note: n=valid cases; # = number of.; M=mean of scale; SD=standard deviation of scale; α = Cronbach Alpha (on standardized items)

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

The overall results of the research are presented in this chapter. First, Section 4.2 describes the profile of the respondents in terms of the demographic questions contained in the last section of the questionnaire (gender, age, ethnic group, work status, household income, highest education level and province). Then, the respondents' usage of various social network sites is outlined, in terms of providing context on their frequency and length of usage, main device used and preference of each SNS (Section 4.3). Finally, the results relating to each hypothesis in the research model are presented (Section 4.4 and 4.5), with a conclusion summarising whether the hypotheses have been supported by the research findings (Section 4.6).

4.2 Demographic profile of the respondents

A descriptive analysis of the demographic variables of the respondents is presented in this section. It should be noted that the percentages of the sub-groups were based on the valid percentages of the response data (i.e. excluding missing cases where respondents did not answer the question).

4.2.1 *Gender*

The research sample consisted of a slight skew towards females (59.5%) with males consisting 40.5% of the sample, amongst the respondents that specified their gender (refer to Figure 3 overleaf). This corresponds with the almost equal split between males (50.8%) and females (49.2%) that use Facebook in South Africa (whose gender is identifiable) reported by World Wide Worx & Fuseware (van Zyl, 2015)

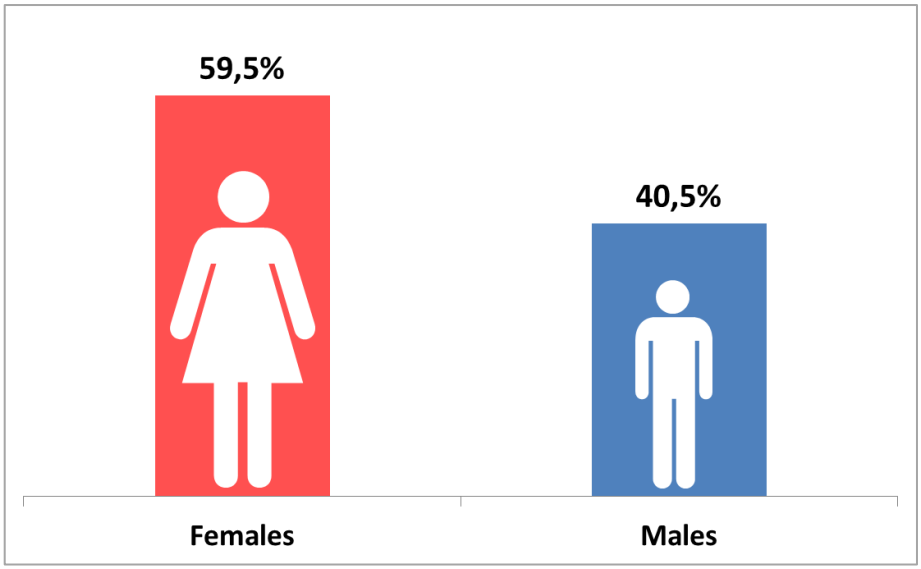


Figure 3: Gender distribution of the research sample

4.2.2 *Age*

The ages of the respondents ranged from 19 to 61 years old, with an average age of 29 years (SD = 7.05). As depicted in Figure 4, half (50.0%) of respondents fell into the 25 to 34 year age group. Furthermore, 54.5% of respondents were teenagers and young adults (i.e. aged 18-29 years), which correlates with studies conducted in developed countries that found that most SNS users fall within a younger age range (Boyd, 2007; Lenhart et al., 2010).

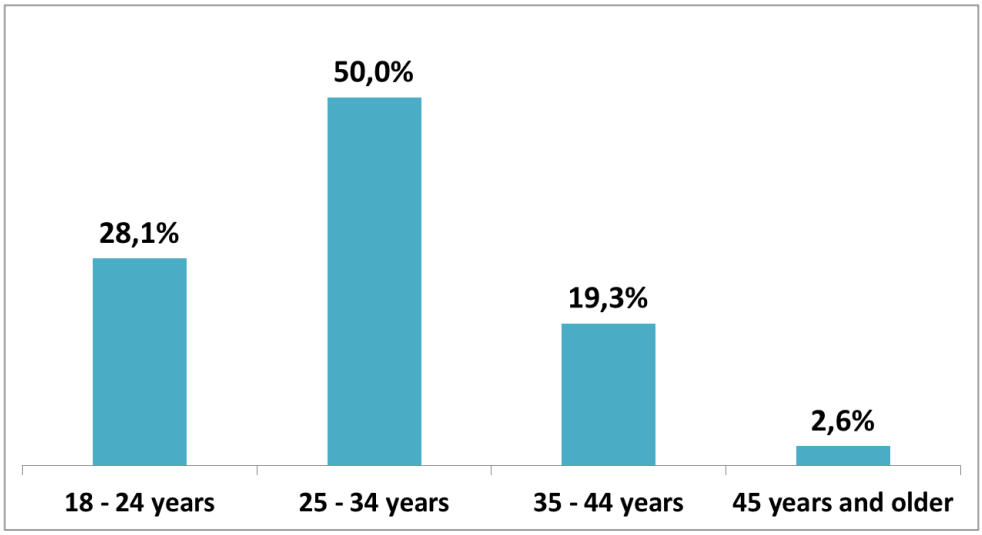


Figure 4: Age distribution of the research sample

4.2.3 *Race*

Understanding the ethnic group distribution in the sample is important, given the vast cultural and racial diversity in South Africa. As shown in Figure 5, the majority (55.6%) of respondents reported their race as Black/African, followed by Coloured (20.1%), White (14.8%), Indian/Asian (7.9%), Other (0.3%) and the rest (1.3%) did not disclose their race.

Publically available information regarding the usage of social network sites by race groups in South Africa is currently quite limited. However, recent demographic reports by website traffic measurement company, Effective Measure (2014), on South African internet users found that the online landscape is starting to mirror the demographics of the country in terms of race.

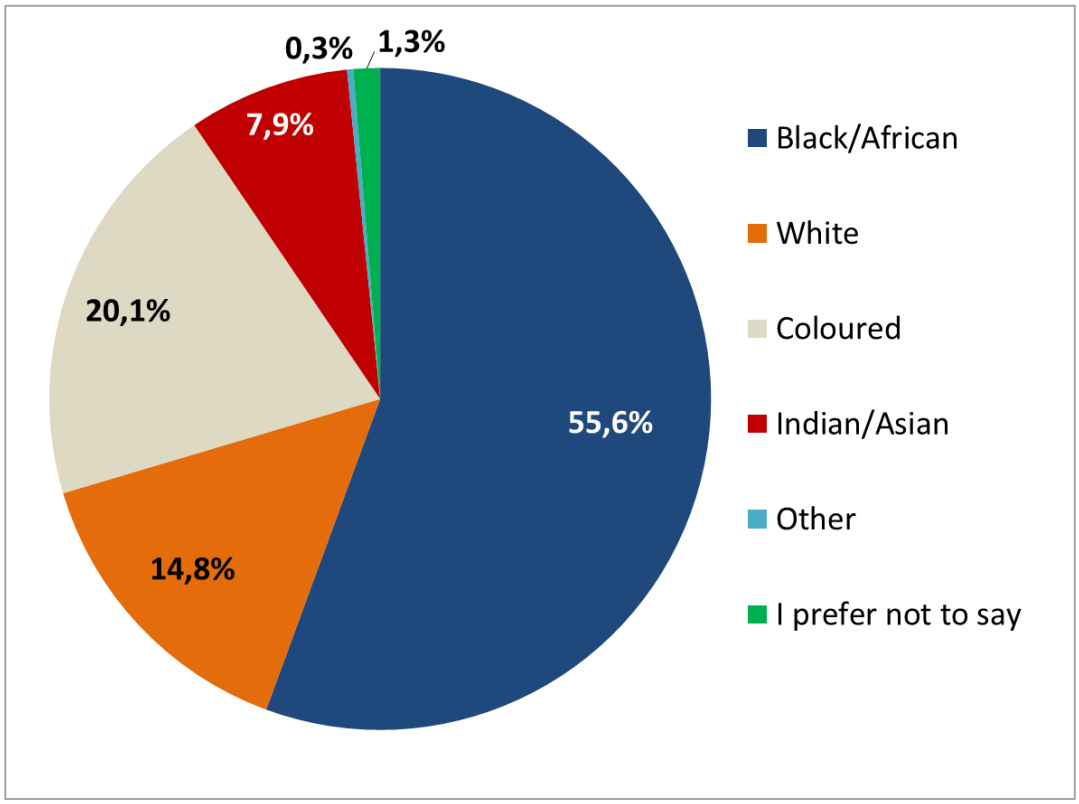


Figure 5: Ethnic group distribution of the research sample

Therefore, in accordance with the 2015 mid-year population estimates of the country (Statistics South Africa, 2015), the research sample is aligned with the South African population group statistics in terms of the Black/African

population group being the largest group (80.6%). However, the proportion of Coloured (8.8%), White (8.3%) and Indian/Asian (2.5%) (Statistics South Africa, 2015) is much lower in the South African population compared to what was obtained in the research sample. The higher proportions of these ethnic groups in the research sample are likely due to a large portion of the sample being obtained from the Western Cape, which has a comparatively higher proportion of these groups (particularly Coloured and White) than in other provinces (Institute of Race Relations, 2014).

4.2.4 *Work status*

As can be seen in Figure 6, most respondents in the research sample were working full time (63.2%) or working part time/freelancing (13.5%). A fifth (20.4%) of respondents were unemployed, with the remainder of the respondents being a housewife/househusband (1.6%) or preferring not to disclose their work status (1.3%).

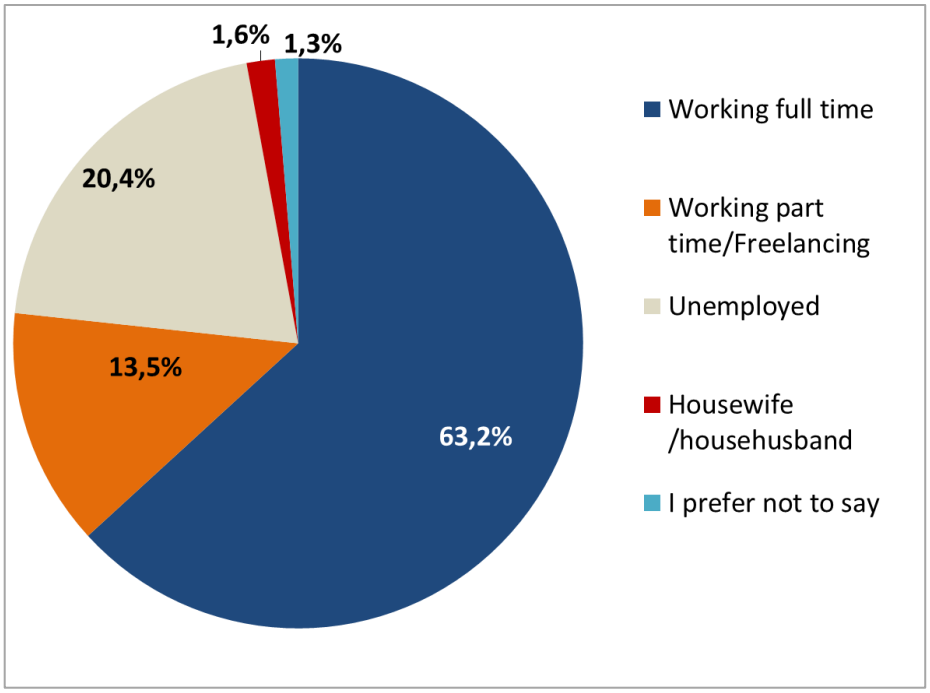


Figure 6: Work status of the research sample

4.2.5 *Monthly household income*

For monthly household income, almost a quarter (24.1%) of respondents reportedly earned within a range of R25 000 – R49 999 per month, followed by R50 000 – R99 999 per month (19.5%) and 17.5% earned above R100 000 per month. The monthly household income groups are presented in Figure 7 below.

Therefore, in accordance with a 2011 report by the Bureau of Market Research (BMR) of the University of South Africa (UNISA) on household income and expenditure patterns in South Africa, most of the respondents in the sample would be classified as earning from the middle to affluent range of total household income (University of South Africa, 2012)

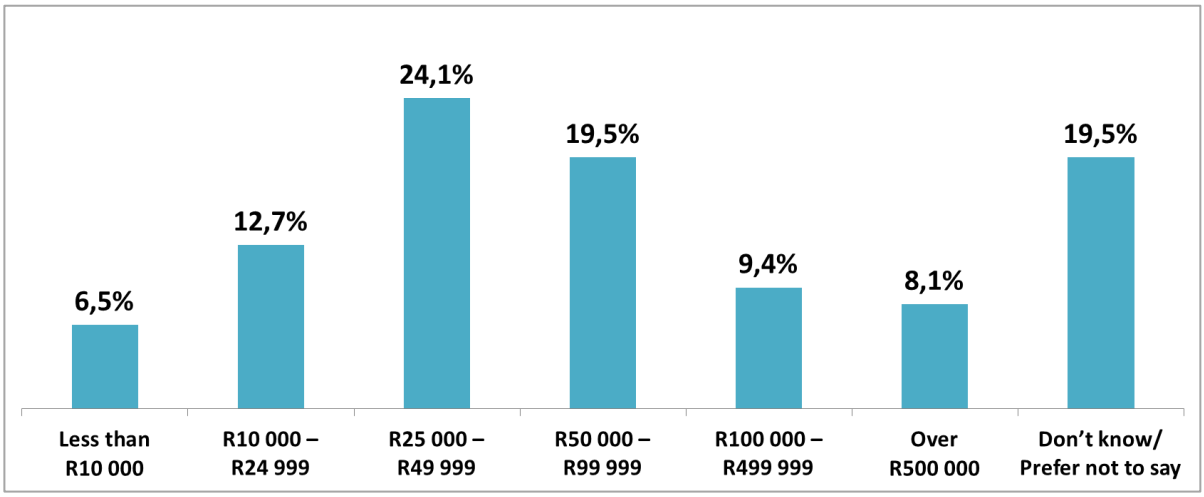


Figure 7: Monthly household income of research sample

4.2.6 *Education level*

Given that the sample was obtained from universities, unsurprisingly, the majority of respondents had obtained a tertiary qualification, with the highest education level that most respondents had attained equally split between undergraduate studies (45.4%) and postgraduate studies (45.4%). This was followed by secondary school/matric (7.9%) and another unspecified diploma or certificate (1.3%). as shown in Figure 8 overleaf.

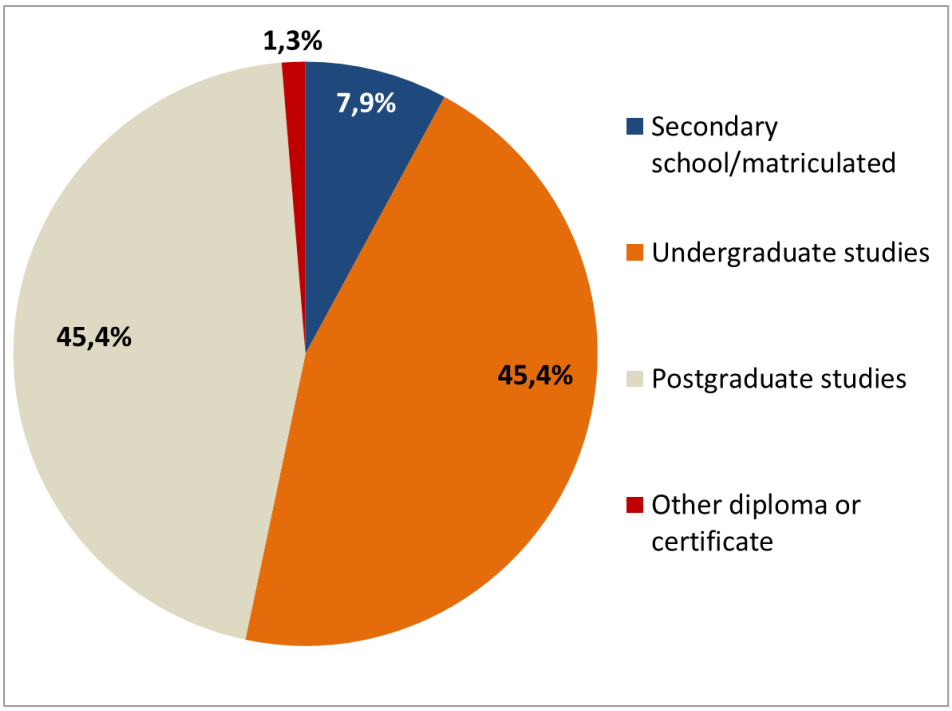


Figure 8: Highest education level of research sample

4.2.7 *Province*

In accordance with the universities where the respondents were obtained, most respondents resided in Gauteng (58.3%), followed by the Western Cape (34.9%), with only a small portion (6.8%) residing in other provinces (refer to Table 5 below).

Table 5: Province resided of the research sample

Province	%
Eastern Cape	1.0
Free State	1.3
Gauteng	58.3
KwaZulu-Natal	0.7
Limpopo	0.7
Mpumalanga	1.6
Northern Cape	1.0
North West	0.7
Western Cape	34.9

According to a report by Effective Measure (2014) on South African internet users, the majority of internet users reside in Gauteng (40.7%) and Cape Town (16.6%). In addition, the greatest growth in the Facebook user base is being

derived from the major urban hubs in the country, specifically Johannesburg (55% user growth) and Cape Town (44% user growth), according to a 2015 report by World Wide Worx and Fuseware (2014b). Therefore, the research sample corresponds with the major provinces and metropolitan areas in the country in terms of internet and social network site usage and growth.

4.3 Social network site usage

A descriptive analysis of the SNS usage results of the research variables is presented in this section. All of the respondents in the sample were required to use at least one social network site (Facebook, Twitter, Instagram, Pinterest or LinkedIn) at least once a month. The percentages of the sub-groups were based on the valid percentages of the response data (i.e. excluding missing cases where respondents did not answer the question).

4.3.1 *Frequency of SNS usage*

In terms of SNS usage, in accordance with global and South African trends (Alexa, 2015; Statista, 2015i), Facebook was the most used social network site in the sample, with 87.2% of respondents reportedly using it once a month or more often, and more than half (53.9%) using it several times a day. Following Facebook in terms of monthly usage was LinkedIn, with 61.2% of respondents reportedly using it once a month or more (refer to Table 6 below).

Table 6: Frequency of social network site usage in the research sample

(%) n=307	Facebook	Twitter	Instagram	Pinterest	LinkedIn
Several times a day	53.9	18.0	28.0	4.2	9.2
Once a day	12.4	6.2	7.8	3.6	9.5
Several times a week	11.1	9.2	9.1	6.9	19.3
Once a week	5.6	5.6	4.9	5.2	12.1
1-3 times a month	4.2	9.5	4.2	9.5	11.1
Monthly users (Total)	***87.2***	***48.5***	***54.0***	***29.4***	***61.2***
Less than once a month	2.0	12.1	7.8	8.5	10.5
Don't use/Not applicable	10.8	39.5	38.1	62.1	28.4

Thereafter, approximately half of the sample reported using Instagram (54.0%) and Twitter (48.5%) once a month or more. It should be noted that although Instagram had fewer monthly users (54.0%) than LinkedIn (61.2%), it had triple the amount of respondents reportedly using it several times a day (28%) compared to LinkedIn (9.2%). Pinterest was the least used SNS in the sample, with 62.1% reportedly not using the site at all and less than a third (29.4%) using it once a month or more.

4.3.2 *Length of SNS usage*

Regarding length of SNS usage as depicted in Table 7, unsurprisingly most respondents in the sample had been using Facebook, the most established SNS, for five years or longer (71.8%), followed by the other older SNS Twitter (19.9%) and LinkedIn (14.1%). For the newer SNS, just under third of the sample used Instagram (32.9%) and Pinterest (28.3%) for less than 2 years.

Table 7: Length of social network site usage in the research sample

(%) n=307	Facebook	Twitter	Instagram	Pinterest	LinkedIn
Less than 6 months	0.3	0.7	2.6	4.6	2.6
6 months – 1 year	0.3	2.0	8.5	6.2	6.9
1 – 2 years	2.6	11.1	21.8	17.6	13.7
2 – 5 years	14.1	27.0	26.4	9.1	34.3
More than 5 years	71.8	19.9	2.6	0.7	14.1
Don't use/Not applicable	10.8	39.4	38.1	61.9	28.4

Length of SNS usage was also examined amongst users of each SNS (i.e. only among respondents that did not say “Don’t use/Not Applicable” for each respective SNS) in order to analyse user differences in the sample, as shown in Figure 9 below. There were no major shifts in length of usage observed amongst users compared to the total sample. Among Facebook users, the majority (80.5%) had used the site for over five years. For LinkedIn (47.9%), Twitter (44.6%) and Instagram (42.6%), the majority of users had used these sites for two to five years. Finally, Pinterest, the most recently used SNS in the sample, had mainly been used between one and two years (46.2%) amongst users of the site.

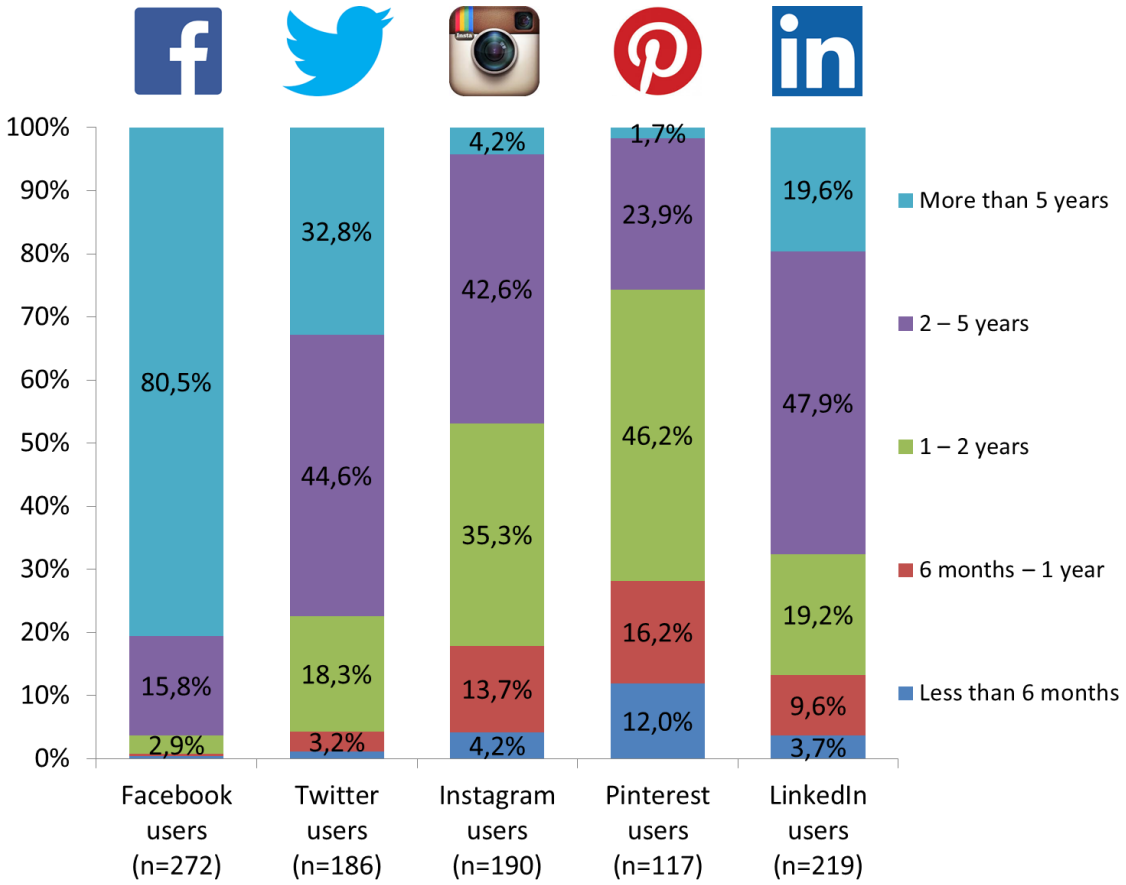


Figure 9: Length of social network site usage (amongst users)

4.3.3 *Main device used to access SNS*

Mobile phones have become one of the most popular ways to access the internet in South Africa, particularly for social network sites. For instance, according to a 2016 report by World Wide Worx and Fuseware on the South African Social Media Landscape (van Zyl, 2015), of the 13 million Facebook users in the country, the majority (10 million, equating to 77% of users) use their mobile phone to access the site and 1.4 million (10.8%) use tablets.

The results of this study correspond with the findings above in terms of mobile phone being the device most used for Facebook (83.6%), Twitter (87.0%), Instagram (91.5%) and Pinterest (59.0%), as indicated in Figure 10 below. However, non-mobile devices (i.e. PC/desktop computer and laptop/notebooks) were the main devices used to access LinkedIn (59.4%) and were also the second most used devices to access Pinterest (29.1%). Tablet usage was generally low (under 15%) as the main access point across the different SNS.

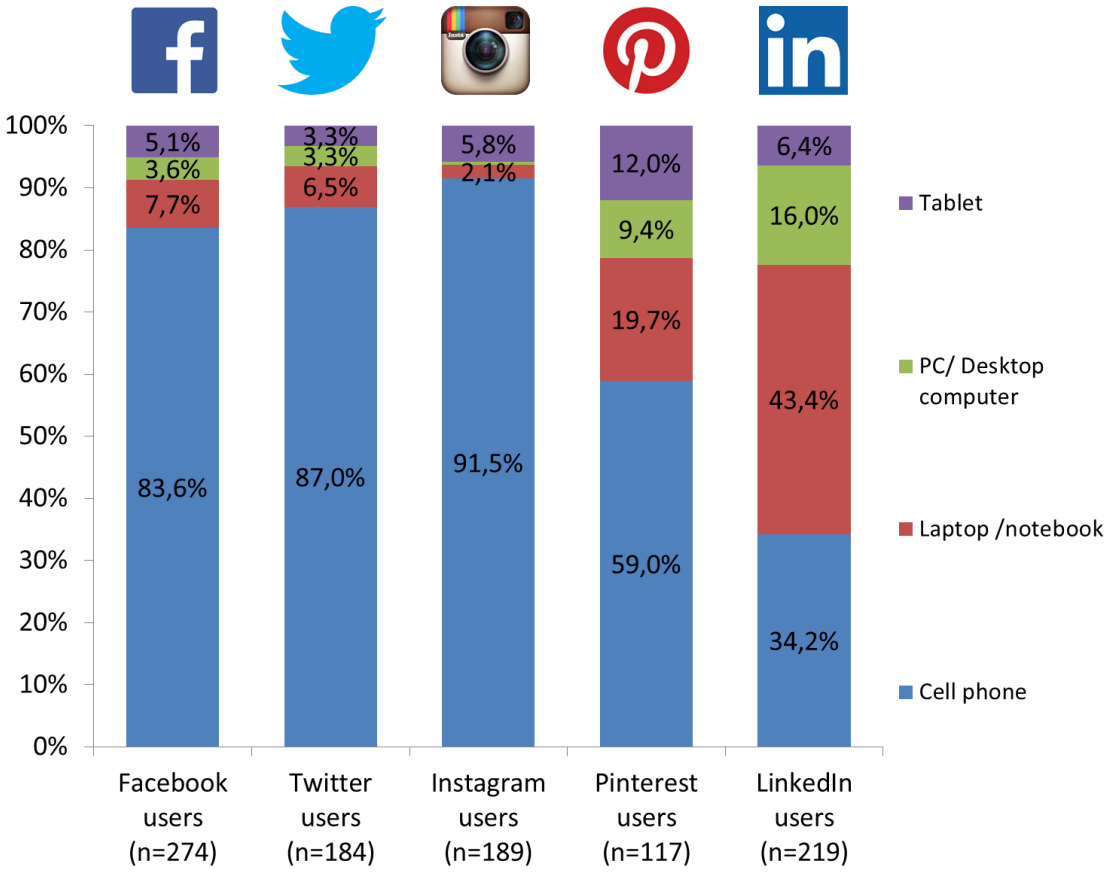


Figure 10: Main device used to access the SNS (amongst users)

4.3.4 *Preference of SNS*

Finally, in accordance with frequency of usage data, Facebook was the most preferred SNS in the sample, with almost half of respondents (49.2%) mentioning this SNS. This was followed by Instagram, with almost a fifth of the sample (18.6%) saying they preferred this SNS the most (see Figure 11 below).

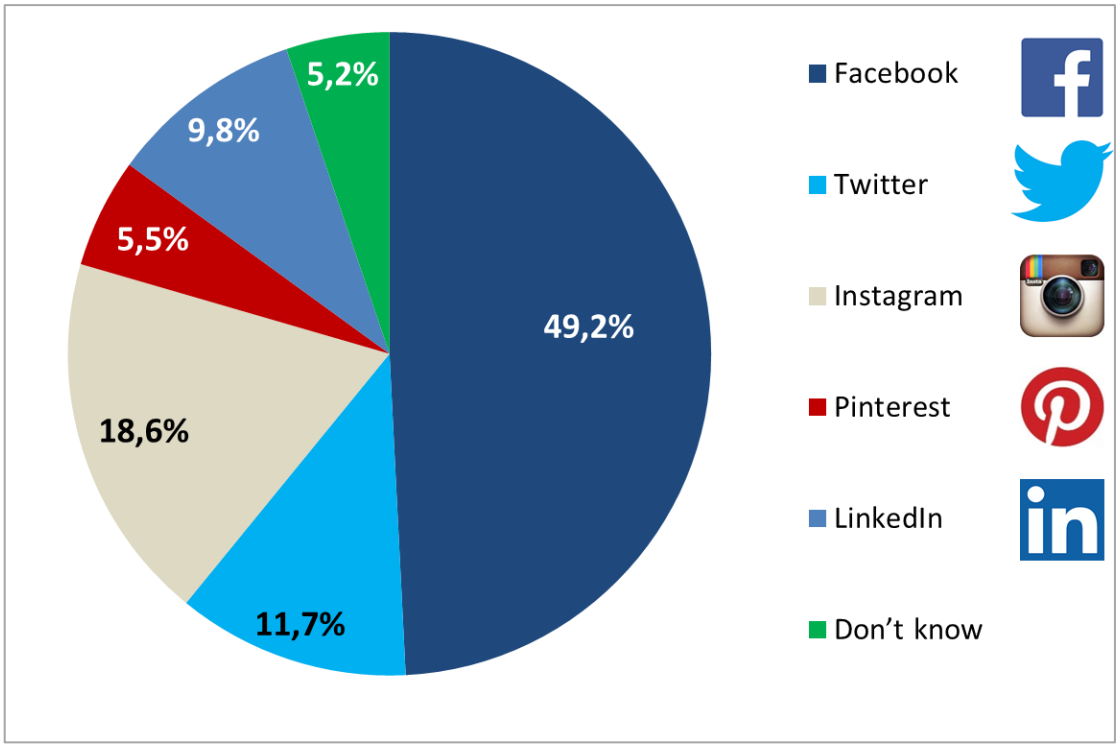


Figure 11: Preference of SNS

In response to which SNS was their least favourite, almost a quarter of respondents (23.8%) reported Twitter followed by Pinterest (19.9%). A fifth of respondents (20.2%) however were uncertain what their least favourite SNS was, as indicated in Table 8 below. The findings of the specific research hypotheses in each sub-problem are presented in the following section.

Table 8: Preference of social network site usage in the research sample

(%) n=307	Facebook	Twitter	Instagram	Pinterest	LinkedIn	Don't know
Prefer most	49.2	11.7	18.6	5.5	9.8	5.2
Prefer least	13.4	23.8	8.5	19.9	14.3	20.2

4.4 Sub-problem 1 results: Personality traits and visual content preference on SNS

The first sub-problem of this study was to investigate the relationship between personality traits (need for cognition and need for affect) and visual content preference on SNS in South Africa. Pearson correlation analysis, Analysis of variance (ANOVA) and multiple regression analysis were conducted to determine the relationships between these variables, as indicated in Table 9 and 10 below.

Table 9: Pearson correlation matrix among personality traits and visual content preference

Variable	*Visual Content Preference*	*Need for cognition (NFC)*	*Need for affect (NFA)*
Visual Content Preference	-		
Need for cognition (NFC)	-.10	-	
Need for affect (NFA)	.12*	.21**	-

n=307 for all correlations tested
*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

Table 10: Multiple regression analysis predicting visual content preference from personality traits

Variable	B	SE	β
Constant	17.45	1.93	
Need for cognition (NFC)	-.05	.02	-.13*
Need for affect (NFA)	.10	.04	.15*
F	4.71*		
Adjusted R^2	.02		

Note: B = Unstandardised coefficient; SE = Standard Error; β= Standardised coefficient
*p< .05 (2-tailed)

4.4.1 *Hypothesis 1 results: The relationship between need for affect and visual content preference*

$H1_0$: *There is no relationship between the need for affect (NFA) and visual content preference on SNS*

$H1_a$: *There is a positive relationship between the need for affect (NFA) and visual content preference on SNS*

Correlation analysis showed that the need for affect (NFA) did in fact have a small positive correlation with visual content preference that was also significant ($r = .12$, $p < .05$), as indicated in Table 9.

Furthermore, multiple regression analysis, as depicted in Table 10, indicated that the need for affect was a significant predictor of visual content preference on SNS ($\beta = .15$, $p < .05$). This analysis also showed that NFA had a significant positive association with visual content preference. Therefore, hypothesis 1 was supported.

The relationship found between the variables in hypothesis 1 was depicted graphically in the scatterplot in Figure 13 in Appendix F. The dots represent a correlation of the aggregate scores for NFA on the x-axis in relation to the corresponding aggregate scores for visual content preference on the y-axis. The line across simply represents the linear regression of the relationship.

As the regression line shows on the graphs, higher aggregate scores of NFA are generally associated with higher aggregate scores for visual content preference, which is a positive relationship between the variables, as predicted in hypothesis 1. Therefore, this hypothesis is fully supported by the research findings. The results pertaining to hypothesis 2 are presented in the following section.

4.4.2 *Hypothesis 2 results: The relationship between need for cognition and visual content preference*

H2$_0$: *There is no relationship between the need* for cognition (*NFC) and visual content preference on SNS*

H2$_a$: *There is a negative relationship between the need* for cognition (*NFC) and visual content preference on SNS*

According to the correlation analysis data in Table 9, it can be deduced that need for cognition (NFC) had a weak, negative correlation with visual content preference, but is only marginally significant at best (r = -.10, p = .09).

However, multiple regression analysis as depicted in Table 10 indicated that the need for cognition (β = -.13, p < .05) was a significant predictor of visual content preference on SNS. This analysis also showed that NFC had a significant negative association with visual content preference. Therefore, hypothesis 2 was supported by regression analysis data.

The relationship found between the NFC (x-axis) and visual content preference (y-axis) is depicted graphically in the scatterplot in Figure 14 in Appendix F. As the regression line shows on the graph, higher aggregate scores of NFC are generally associated with lower aggregate scores for visual content preference, which is a negative relationship between the variables, as predicted in hypothesis 2.

Finally, the two personality traits (NFA and NFC) together were found to explain a small, but statistically significant amount of variance in visual content preference on SNS. The total variance explained by this model was approximately 2%, with adjusted R^2 = .02 and ANOVA results of F (2, 304) = 4.71, p = .01, as shown in Table 10. The results pertaining to research sub-problem 2, which examined the relationship between these personality traits and verbal content preference on SNS, are presented in the following section.

4.5 Sub-problem 2 results: Personality traits and verbal content preference on SNS

The second sub-problem of this study was to investigate the relationship between personality traits (need for cognition and need for affect) and verbal content preference on SNS in South Africa. Pearson correlation analysis, Analysis of variance (ANOVA) and multiple regression analysis were conducted to investigate the relationships between these variables, as indicated in Table 11 and 12 below.

Table 11: Pearson correlation matrix among personality traits and verbal content preference

Variable	*Verbal Content Preference*	*Need for cognition (NFC)*	*Need for affect (NFA)*
Verbal Content Preference	-		
Need for cognition (NFC)	.21**	-	
Need for affect (NFA)	.004	.21**	-

n=307 for all correlations tested
*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

Table 12: Multiple regression analysis predicting verbal content preference from personality traits

Variable	B	SE	β
Constant	12.64	1.93	
Need for cognition (NFC)	.09	.02	.22**
Need for affect (NFA)	-.03	.04	-.04
F	7.19**		
Adjusted R^2	.04		

Note: B = Unstandardised coefficient; SE = Standard Error; β= Standardised coefficient
**p< .01 (2-tailed)

4.5.1 *Hypothesis 3 results: The relationship between need for cognition and verbal content preference*

H3$_0$: *There is no relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

H3$_a$: *There is a positive relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

The results from the correlation analysis in Table 11 showed that need for cognition (NFC) had a small positive correlation with verbal content preference that was also significant ($r = .21$, $p < .01$).

Multiple regression analysis as depicted in Table 12 also indicated that need for cognition ($\beta = .22$, $p < .01$) was a significant predictor of verbal content preference on SNS. In addition, the analysis showed that preference for verbal content had a significant positive association with NFC, and therefore hypothesis 3 was supported.

The relationship found between NFC (x-axis) and verbal content preference (y-axis) is depicted graphically in the scatterplot in Figure 15 in Appendix F. As the regression line shows on the graphs, higher aggregate scores of NFC are generally associated with higher aggregate scores for verbal content preference, which is a positive relationship between the variables, as predicted in hypothesis 3. Therefore, this hypothesis was fully supported by the research findings. The results pertaining to hypothesis 4 are presented in the following section.

4.5.2 *Hypothesis 4 results: The relationship between need for affect and verbal content preference*

H4$_0$: *There is no relationship between the need for affect (NFA) and verbal content preference on SNS*

H4$_a$: *There is a negative relationship between the need for affect (NFA) and verbal content preference on SNS*

The correlation analysis data in Table 11 showed that need for affect (NFA) had a very weak correlation with verbal content preference that was not significant (r = .004, p = .95).

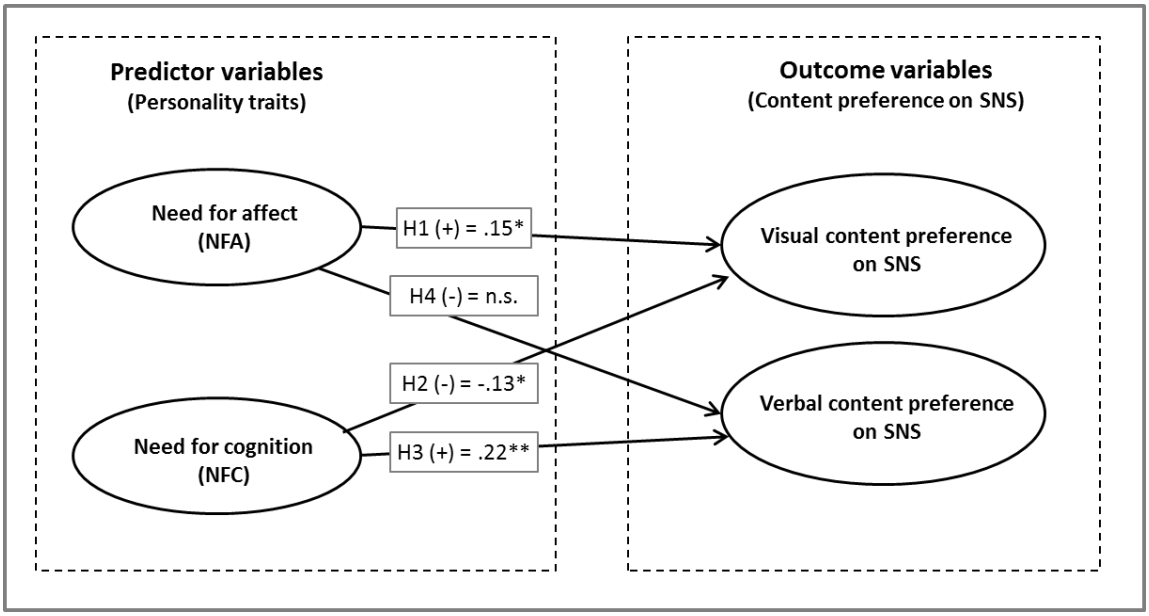
Similarly, multiple regression analysis as depicted in Table 12 showed that although NFA did have a weak negative association with verbal content preference as predicted in hypothesis 4, this relationship was not significant (β = -.04, p = .47). This personality trait was therefore not a significant predictor of verbal content preference and thus the fourth hypothesis was not supported.

The relationship found between the NFA (x-axis) and verbal content preference (y-axis) was depicted graphically in the scatterplot in Figure 16 in Appendix F. It was predicted in hypothesis 4 that higher aggregate scores of NFA would generally be associated with lower aggregate scores for verbal content preference (i.e. a negative relationship between the variables). However, as can be seen in Figure 16, the regression line is essentially horizontal, indicating that almost no correlation existed between the variables. Therefore, hypothesis 4 was not supported by any of the research results.

Finally, of the two personality traits (NFA and NFC), only NFC was found to explain a statistically significant amount of variance in verbal content preference on SNS. As shown in Table 12, the total variance explained by this model was approximately 4%, with adjusted R^2 = .04 and ANOVA results of F (2, 304) = 7.19, p = .001.

4.6 Summary of the results

The main research problem of this study was to investigate the relationship between personality traits (need for cognition and need for affect) and content preferences (visual and verbal) on social network sites (SNS) in South Africa. Four hypotheses were derived to address the research problem. Correlation analysis, analysis of variance (ANOVA) and standard multiple linear regression were conducted on SPSS in order used to test the hypotheses amongst a sample of 307 social network site users in South Africa.



Note: *p< .05 (2-tailed); **p< .01 (2-tailed), n.s. = not significant

Figure 12: Summary of hypotheses results

As presented in Figure 12 above, regression analyses found that the need for affect (β = .15, p < .05) predicted a significant positive relationship with visual content preference on SNS (Hypothesis 1) and the need for cognition (β = -.13, p < .05) predicted a significant negative relationship with visual content preference on SNS (Hypothesis 2). Analysis of variance (ANOVA) for these hypotheses resulted in F (2, 304) = 4.713, p = .01 and adjusted R^2 = .02, as shown in Table 10. The results supported the relationships between the variables for both hypotheses. Although the correlations and standardised

coefficients were relatively small, both personality traits were significant predictors of visual content preference.

Regression analyses also found that the need for cognition (β = .22, p < .01) predicted a significant positive relationship with verbal content preference on SNS (Hypothesis 3), however the need for affect (β = -.04, p = .47) did not have a significant negative relationship with verbal content preference as predicted (Hypothesis 4). ANOVA for these hypotheses resulted in F (2, 304) = 7.19, p = .001, adjusted R^2 = .04, as depicted in Table 12. The results therefore confirmed the third hypothesis but did not support the fourth hypothesis. The following chapter of the report discusses and explains the research findings.

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

In this chapter, the results of the research are discussed and interpreted. First, the potential impact that the demographic profile of the sample had on the key variables and hypothesised relationships in the study are discussed (Section 5.2). Similarly, the differential effect that usage of the various SNS had on the outcome variables (content preference on SNS) is examined in Section 5.3. Then, the results relating to each hypothesis within research sub-problem 1 (Section 5.4) and sub-problem 2 (Section 5.5) are explained in light of the literature. Possible explanations, based on past academic studies as well as observed marketing trends within this field, are offered for any differences and similarities seen in the results. Finally, a summary of the discussion is concluded in Section 5.6.

5.2 Demographic profile of respondents

Recent research generally supports that two demographic variables – gender and age – have a differential effect on social network usage. For instance, Orchard, Fullwood, Galbraith, and Morris (2014) found that females were more likely than males to use SNS to maintain social connections, whereas males were more likely to experiment with information included in their SNS profile. In terms of age differences for example, older SNS users have been found to have a broader age range of friends in their social network, whereas younger users tend to have a friendship network closer to their own age group (Pfeil, Arjan, & Zaphiris, 2009). Therefore, although not hypothesised in the research model, the prevalence of these differences in prior research suggests that it is important to understand the research results of this study in the context of the demographic profile of the sample, and particularly the potential impact that age and gender had on the findings.

5.2.1 *Gender*

Gender remains one of the most popular bases for segmentation used by marketers, as it is a distinguishing demographic variable and numerous products and services are intrinsically designed for either men or women (Schiffman et al., 2010). Prior similar studies that have examined the impact of specific personality traits on SNS usage have found that gender can have a significant interaction effect on these variables e.g. (Amichai-Hamburger & Vinitzky, 2010; Correa et al., 2010). Furthermore, previous research outside the realm of SNS usage, found gender to be a covariate (i.e. secondary variable) that affected the relationship between personality traits (NFC and NFA) in visual/verbal processing (Sojka & Giese, 2001, 2006).

This study had a slightly higher proportion of females (59.5%) than males (40.5%) in the sample. A t-test was conducted to determine whether any significant differences were found between the means of males and females in terms of the key research variables, as shown in Table 13 below.

Table 13: Means and SDs for key research variables, according to gender

	Total (n=304)		Males (n=123)		Females (n=181)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	68.37	9.54	66.29	8.82
Need for affect (NFA)	35.36	5.33	**33.91****	5.40	**36.22****	5.13
Verbal content preference	17.72	3.78	17.40	4.23	17.89	3.48
Visual content preference	17.58	3.74	**16.89***	3.93	**17.99***	3.64

Note: n=valid cases; Mean of aggregate score of scale; SD=standard deviation of scale;
Figures in **bold** indicate significant differences between males and females: *p< .05 (2-tailed); **p< .01 (2-tailed)

The statistical analysis showed marginally significant differences for gender in terms of need for cognition (NFC), with males (Mean = 68.37, SD = 9.54) exhibiting a higher need for cognition than females (Mean = 66.29, SD = 8.82), with analysis of variance (ANOVA) resulting in F (2, 302) = .90, p = .052. However, females were found to exhibit a significantly higher need for affect (Mean = 36.22, SD = 5.13) than males (Mean = 33.91, SD = 5.40), with ANOVA

resulting in F (2, 302) = 1.50, p < .001. Females also exhibited a significantly higher visual content preference on SNS (Mean = 17.99, SD = 3.64) than males (Mean = 16.89, SD = 3.93), with F (2, 302) = .55, p < .05. No significant gender differences were found for verbal content preference on SNS.

In terms of regression analysis, prior similar studies that have examined the impact of specific personality traits on SNS usage have entered gender as a covariant into the regression model (Amichai-Hamburger & Vinitzky, 2010; Seidman, 2013) in order to control for the potential effect this variable may have on the results.

In order to see what effect gender had on the hypothesised relationships in the study, gender was entered into the regression models for visual content preference (sub-problem 1) and verbal content preference (sub-problem 2), as shown in Table 14 below. For the first model, which tested the effects that the personality traits (NFC and NFA) had on visual content preference (sub-problem 1 - hypothesis 1 and 2), gender was not a significant predictor when included in the model (β = .10, p = .08). In addition, the total variance explained by the model with the inclusion of gender was approximately 3%, (which is only a 1% improvement from the original model) with adjusted R^2 = .03 and F (3, 300) = 4.22, p < .01.

Table 14: Multiple regression analysis predicting visual and verbal content preference from personality traits and gender

	Visual Content Preference			Verbal Content Preference		
Variable	B	SE	β	B	SE	β
Constant	16.31	2.033		11.50	2.03	
Need for cognition (NFC)	-.05	.024	-.11	.10	.02	.23
Need for affect (NFA)	.09	.042	.12*	-.05	.04	-.06**
Gender	.80	.452	.10	.80	.45	.10
F	4.22			5.80		
Adjusted R^2	.03			.05		
Δ Adjusted R^2	.01			.01		

Note: B = Unstandardised coefficient; SE = Standard Error; β= Standardised coefficient
*p< .05 (2-tailed); **p< .01 (2-tailed)

For the second model, which tested the effects that the personality traits (NFC and NFA) had on verbal content preference (sub-problem 2 - hypothesis 3 and 4), gender was also not a significant predictor when included in the model (β = .10, p = .08). In addition, the total variance explained by this model with the inclusion of gender was approximately 5%, (which is only a 1% improvement from the original model) with adjusted R^2 = .05 and F (3, 300) = 5.80, p < .01. The results of the statistical analyses for gender are explained in the context of prior research below.

Gender researchers, such as Putrevu (2001), have based the various differences between men and women on a number of biological and social factors. Biological differences, for instance, can be explained by differences in sex chromosomes and hormones, particularly testosterone (Klein, 2000). Within the socialisation literature, the Social Role Theory suggests that gender differences in ability and personality traits usually reflect society's traditional gender roles (Eagly, Wood, & Diekman, 2000).

Regarding the gender differences in NFA found in this study, in the development of the need for affect (NFA) scale, Maio and Esses (2001) discovered significant gender differences in this personality trait, with females exhibiting higher levels of NFA than males, as shown in this present research. The authors note that a range of reasons could explain these gender differences, such as genetic factors and feminine sex roles, in accordance with the factors found by Putrevu (2001). While a thorough investigation of potential explanations was beyond the scope of their study, the authors suggested that this could be tested in future research (Maio & Esses, 2001).

In terms of the gender differences in visual content preference found in the current study, initially, the results indicating that females had a higher preference for visual content on SNS seems to contradict academic literature providing biological explanations in visual and verbal processing differences between men and women. As previously mentioned, the split-brain theory (also referred to as hemispheric lateralisation) is based on the premise is that the human brain is split into two sides, with the left hemisphere specialising in verbal abilities, and the right hemisphere specialising in spatial perception

(Levy et al., 1972). Various studies have shown that male brains are more functionally lateralised (Everhart, Shucard, Quatrin, & Shucard, 2001) resulting in men demonstrating superior visual-spatial abilities (Geary, 1996). Conversely, female brains are more integrated (Saucier & Elias, 2001) and consequently women tend to exhibit stronger linguistic and verbal skills (Berenbaum, 1999). Therefore, based on these theories, a higher preference for visual content would have been expected amongst male respondents in the current study rather than female respondents.

The gender differences in visual content preference found in the present research are however consistent with current SNS demographic and usage differences reported by various marketing research findings. In particular, highly visual SNS such as Instagram and Pinterest, show a significant skew towards women. For instance, the Instagram user base consists of over two-thirds (68%) females (Smith, 2014b) and Pinterest has almost three times as many online female users (44%) than male online users (16%), according to analysis by Pew Research Centre (Duggan, 2015). While it could be argued that these differences are due to the types of content on these platforms being strongly skewed towards female interests, such as fashion, beauty products and home decoration (Talbot, 2015), overall the gender skews in SNS usage observed worldwide may provide a possible reason for the results of this present study contradicting the expected gender differences from a biological perspective.

Furthermore, past studies in academic literature have found mixed results in terms of the prediction of gender with personality on certain SNS behaviour and usage. For instance, Amichai-Hamburger and Vinitzky (2010) found gender to not be predictive of the number of friends a Facebook user has. Although their study found that the volume of personal information shared on Facebook could be predicted by gender (β = .18, p < .01) and other various personality traits, the overall impact on the dependent variable was still small, with adjusted R^2 = .04 and F (6, 225) = 2.64, p < .01 (Amichai-Hamburger & Vinitzky, 2010) which are aligned to the results of this study. Similarly in another study, regression analysis showed that while gender was found to predict significant

differences within certain personality traits, its prediction on social media usage overall was less consistent (Correa et al., 2010).

In conclusion, although significant differences were seen between the sexes for some of the key research variables in the current study, in the context of the regression analysis results, the additional amount of variation explained in the research models as a result of gender was almost negligible, and gender was not found to be a significant predictor. Therefore, caution must be used when making inferences about the differences between males and females in the study and the impact that gender has on the results, particularly on the outcome variables.

5.2.2 *Age*

Age is another important demographic factor when understanding social network site usage, particularly since SNS usage tends to be skewed towards younger age groups (Boyd, 2007; Lenhart et al., 2010). As with gender, age is a distinguishing segmentation variable in marketing and various products and services are intrinsically designed to appeal to the needs of younger or older consumers (Schiffman et al., 2010). In addition, age often has a direct correlation with other segmentation variables, such as socioeconomic status (particularly disposable income) as well as stage of the family life cycle (Glick, 1977).

An analysis of age groups differences was conducted between teenagers and young adults (aged 18-29 years) versus older adults (30 years or older) as recommended by Correa et al. (2010). The present study had a slightly higher proportion of the younger age group in the sample, with 54.5% aged 18-29 years old and 45.5% aged 30 years or older. A t-test was conducted to determine whether any significant differences were found between younger and older respondents for the key research variables, as shown in Table 15.

Table 15: Means and SDs for key research variables, according to age

	Total sample (n=303)		18 – 29 years (n=165)		30 years + (n=138)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	**65.67****	8.54	**68.95****	9.49
Need for affect (NFA)	35.36	5.33	35.58	5.31	35.05	5.33
Verbal content preference	17.72	3.78	17.81	3.91	17.54	3.71
Visual content preference	17.58	3.74	**18.69****	3.26	**16.23****	3.96

Note: n=valid cases; Mean of aggregate score of scale; SD=standard deviation of scale; Figures in **bold** indicate significant differences between younger (18-29 years) and older (30 years +) respondents: **p< .01 (2-tailed)

The statistical analysis showed no significant differences between older and younger respondents in terms of need for affect (NFA) and verbal content preference on SNS. However, older respondents were found to exhibit a significantly higher need for cognition (Mean = 68.95, SD = 9.49) than younger respondents (Mean = 65.67, SD = 8.54), with analysis of variance (ANOVA) resulting in F (2, 301) = .90, p < .001. Younger respondents, on the other hand, exhibited a significantly higher visual content preference on SNS (Mean = 18.69, SD = 3.26) than older respondents (Mean = 16.23, SD = 3.96), with F (2, 301) = 5.62, p < .001.

Age was also entered in the regression models in order to see what effect this demographic factor had on the research hypotheses, as shown in Table 16. For the first model, which tested the effects that personality traits (NFC and NFA) had on visual content preference (sub-problem 1 - hypothesis 1 and 2), age was found to be a significant predictor when included in the model (β = -.32, p < .001). In addition, the total variance explained by the model with the inclusion of age was approximately 12%, (which represents 10% improvement from the original model) with adjusted R^2 = .12 and F (3, 299) = 14.58, p < .001.

Table 16: Multiple regression analysis predicting visual and verbal content preference from personality traits and gender

	Visual Content Preference			Verbal Content Preference		
Variable	B	SE	β	B	SE	β
Constant	21.46	1.98		13.98	2.07	
Need for cognition (NFC)	-.03	.02	-.07	.10	.03	.24**
Need for affect (NFA)	.08	.04	.12*	-.04	.04	-.06
Exact age	-.17	.03	-.32**	-.06	.03	-.11
F	14.58			6.12		
Adjusted R^2	.12			.05		
Δ Adjusted R^2	.10			.01		

Note: B = Unstandardised coefficient; SE = Standard Error; β= Standardised coefficient
*p< .05 (2-tailed); **p< .01 (2-tailed)

For the second model, which tested the effects that personality traits (NFC and NFA) had on verbal content preference (sub-problem 2 - hypothesis 3 and 4), age however was not a significant predictor when included in the model (β = -.11, p = .06). In addition, the total variance explained by this model with the inclusion of age was approximately 5%, (which is only a 1% improvement from the original model) with adjusted R^2 = .05 and F (3, 299) = 6.12, p < .001.

Comparison of the research results to prior studies demonstrates some similarities and differences in terms of the effect that age has on the key research variables. For instance, in terms of personality traits, this study found no significant differences between older and younger respondents in terms of need for affect (NFA). However, in the development of the NFA scale, Maio and Esses (2001) discovered significant negative correlations between age and this trait (i.e. as age increased, NFA decreased). However, these results should be viewed cautiously, given that the respondents in this study were mostly aged 18 to 21 years old (Maio & Esses, 2001), and a much wider age range was used in the current study (19 to 61 years, with standard deviation = 7.05). Therefore, it would appear that the negative relationship between age and NFA found by Maio and Esses (2001) is not supported when more evenly representative age groups were obtained, as per this current study.

In terms of need for cognition, the significant difference found in this study between younger and older respondents for this personality trait (with NFC increasing with age) was supported by findings in prior research. A study by Hughes et al. (2012) examined the link between effortful thinking (i.e. NFC) and the use of social network sites Twitter versus Facebook. In this study, the authors speculated that differences could be explained by the type of information sought on the SNS platform itself in combination with age and personality traits. In particular, they found that Twitter appealed to older persons with a higher NFC who do not necessarily wish to socialise, whereas Facebook appealed to younger, more sociable individuals who have a lower NFC (Hughes et al., 2012), which has similar aspects to the findings of this present study.

Finally, the significant difference found in this study between younger and older respondents in terms of visual content preference (with younger respondents preferring more visual content) was supported by findings in prior research. A study by Pfeil et al. (2009) on age differences in social networking behaviour on MySpace, found that younger users are more likely to use a wide spectrum of available media such as music and videos, whereas older users were more hesitant to engage with these features. This is consistent with the rise of the "digital natives" generation – a term that refers to younger age groups (born after 1980) with significant knowledge of digital technology, including computers, the internet and cell phones (Prensky, 2001). This group of "screenagers" (a blend of the term 'screen' and 'teenagers') grew up immersed in online social technologies and therefore have the skills, access and willingness to engage with them, including more advanced types of content (Kaplan & Haenlein, 2010). The results of this study are therefore consistent with these findings, given that younger respondents were more likely to prefer and engage in activities on SNS that involve more visual content (such as photos and videos) than older respondents.

It should also be noted that in studies where age was included in the regression analysis with personality traits, the variance accounted for by the variables in the outcome variable was higher, particularly amongst younger age groups,

e.g. Correa et al. (2010). In particular, one of the key findings in a study by Hughes et al. (2012) was that Sociability (one of the “Big Five” personality traits), Need for Cognition and age collectively were the most predictive variables of informational use of Twitter and Facebook, accounting for 20.8% and 15.8% of the variance on the respective sites. Within this same study, age was one the most predictive variables analysed (accounting for an additional 4.6% of the variance of the use of Facebook for social reasons) when combined with certain personality traits (Hughes et al., 2012). Thus, this study provides further evidence for the predictive power of age and need for cognition in the research model.

In conclusion, while age is a promising demographic variable in the study results, as with gender, caution must also be used when making inferences about the differences between younger and older SNS users. On the one hand, there are significant age differences found for some of the key research variables which are supported by prior literature. In addition, in the context of the regression analysis results, age accounted for a large proportion of the variance in visual content preference. However, the present study found mixed results when analysing the effect of age on verbal content preference, as well as age differences between the personality trait need for affect (NFA). Therefore, it cannot be assumed that age differences were always present in the current study, nor that variance in SNS behaviour and content preferences could necessarily be explained by age.

5.3 Social network site usage

Currently, there is an array of different social network sites that exist, and a handful of previous studies have investigated and found individual differences in the usage of these sites. For instance, a preference for and usage of the two largest SNS, Facebook and Twitter, differed according to user personality (Hughes et al., 2012). In addition, among the popular image-sharing SNS – Instagram, Pinterest and Tumblr – differences in usage were found based on gender as well as the proportions of internet users that share original photos and videos they have created themselves versus finding this type of content

elsewhere online and then posting it (Rainie, Brenner, & Purcell, 2012). In light of past studies examining differences in usage, as well as the innately different focus (Hughes et al., 2012) and technological functionality (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011) that each SNS offers, it is therefore important to determine whether there is a differential effect of SNS usage factors on the research findings.

5.3.1 *Frequency of SNS usage*

This study obtained a sample of respondents that were required to use Facebook, Twitter, Instagram, Pinterest or LinkedIn, at least once a month or more often. In order to determine whether any significant differences were found between the means of users (once a month of more) in comparison to non-users of each of the respective SNS in terms of the key research variables, t-tests and ANOVA were conducted, as shown in Table 26 to 30 in Appendix G.

The key finding of the statistical analysis was that there were significant differences between users and non-users of the respective SNS in terms of the outcome variables of the research model (content preference on SNS). Specifically, users of Facebook (Mean = 17.88, SD = 3.59) exhibited a significantly higher visual content preference than non-users (Mean = 15.31, SD = 4.31), with ANOVA resulting in F (2, 304) = 4.4, $p < .05$. Similarly, Instagram users (Mean = 18.84, SD = 3.44) also demonstrated a significantly higher visual content preference than non-users, (Mean = 16.01, SD = 3.58) with ANOVA resulting in F (2, 305) = .34, $p < .001$.

In contrast, compared to non-users of LinkedIn (Mean = 18.36, SD = 3.70), users of this SNS (Mean = 17.03, SD = 3.75) exhibited a significantly lower preference for visual content, with ANOVA resulting in F (2, 304) = .002, $p < .05$. Twitter users (Mean = 18.06, SD = 3.45) showed a directionally higher (albeit not statistically significant) preference for verbal content compared to non-users of the site (Mean = 17.30, SD = 4.06), with ANOVA resulting in F (2, 304) = 2.49, $p = .08$. Finally, Pinterest users and non-users did not exhibit any significant differences between them for visual or verbal content preference on SNS.

Frequency of SNS usage was also entered in the regression models in order to evaluate what effect this variable had on the research hypotheses, as shown in Table 17 below. It should be noted that the scale for frequency of usage had coded increasing frequency of usage categories with lower numbers, i.e. "*Several times a day*" (code 1) to "*Less than once a month*" (code 6) as shown in Q4 in the questionnaire (refer to Appendix B). Therefore, negative coefficients in the regression model are actually indicative of a positive relationship between the outcome variables, and vice versa.

For the first model, which tested the effects that personality traits (NFC and NFA) had on visual content preference (sub-problem 1 - hypothesis 1 and 2), the usage of Facebook (β = -.23, p < .05), Instagram (β = -.40, p < .001) and LinkedIn (β = .13, p < .05) were found to be significant predictors when included in the model. In addition, the total variance explained by the model with the inclusion of frequency of SNS usage was approximately 25%, (which represents a 23% improvement from the original model) with adjusted R^2 = .25 and F (7, 296) = 15.63, p = .000.

Table 17: Multiple regression analysis predicting visual and verbal content preference from personality traits and frequency of SNS usage

	Visual Content Preference			Verbal Content Preference		
Variable	B	SE	β	B	SE	β
Constant	17.85	1.98		14.19	2.27	
Need for cognition (NFC)	-.01	.02	-.03	.09	.03	.21**
Need for affect (NFA)	.08	.04	.11*	-.03	.04	-.04
Facebook usage	-.43	.10	-.23**	-.10	.11	-.05
Twitter usage	.06	.09	.03	-.04	.10	-.02
Instagram usage	-.59	.08	-.40**	-.09	.09	-.06
Pinterest usage	-.02	.11	-.01	-.06	.13	-.03
LinkedIn usage	.25	.10	.13*	-.08	.11	-.04
F	15.63**			2.67*		
Adjusted R^2	.25			.04		
Δ Adjusted R^2	.23			-.002		

Note: B = Unstandardised coefficient; SE = Standard Error; β= Standardised coefficient
*p< .05 (2-tailed); **p< .01 (2-tailed)

For the second model, which tested the effects that personality traits had on verbal content preference (sub-problem 2 - hypothesis 3 and 4), frequency of SNS usage however was not a significant predictor for any of the respective SNS. In addition, the total variance explained by this model with the inclusion of these variables remained at approximately 4% (as per the original model) with adjusted $R^2 = .04$ and $F(7, 296) = 2.67$, $p < .05$.

In terms of the dependent variables of the study, the personality traits NFC and NFA, it should be noted that very few significant differences were found according to frequency of SNS usage. Similar research by Hughes et al. (2012) found that preferences for Twitter or Facebook was related to different personality traits, and speculated that these differences were due to the informational needs of each site. However in this study, the only significant personality differences were found in the NFC in terms of usage of Facebook and LinkedIn. Specifically, respondents who used Facebook more often were found to have lower NFC than non-users of the site, and LinkedIn users had higher NFC than non-users, as shown in Table 26 and 30 respectively, in Appendix G.

Interpretation of these findings must take into account the usage of multiple SNS in the research sample. For instance, approximately a fifth of the sample (21%) reportedly used four SNS (Facebook, Twitter, Instagram and LinkedIn) once a month or more often, and over half (53%) of the respondents used at least two SNS monthly. This finding is supported by a 2014 study by the Pew Research Centre (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015) which discovered that more than half (52%) of adult internet users in the USA used two or more platforms in 2014, with this behaviour on the rise, given the 10% increase in multi-platform usage from the previous year.

Therefore, conclusive discussion of the implications of these findings is constrained due to the fact that most respondents in the sample used more than one SNS. This overlap of SNS usage may conflate the results, particularly for the second research model in which no SNS were found to significantly predict preference for verbal content. What may however give a clearer explanation of the effect of SNS usage on content preference is which SNS

users actually prefer using the most (as opposed to which ones they report using), as detailed in the following section.

5.3.2 *Preference of SNS*

While frequency of SNS usage gives a good behavioural indication of SNS phenomena of the research sample, analysis the research results in the context of the SNS reported as the most preferred may add a more definitive perspective, particularly from an attitudinal perspective of the respondents.

A series of one-way analysis of variance (ANOVA) was conducted in order to evaluate multiple comparisons of the means across most preferred SNS in terms of the outcome variables of the research model (content preference on SNS), as per a similar study by (Hughes et al., 2012). The means are summarised in Table 18 below and the entire multiple comparisons are contained in Table 31 and 32 in Appendix H.

Table 18: Means and SDs for content preference, according to most preferred SNS

Most Preferred SNS	Visual Content Preference			Verbal Content Preference		
	n	Mean	SD	n	Mean	SD
Total	307	17.54	3.78	307	17.66	3.80
Facebook	151	17.96	3.17	151	17.85	4.15
Twitter	36	16.17	3.98	36	18.08	4.05
Instagram	57	19.79	3.35	57	17.61	2.94
Pinterest	17	15.35	3.71	17	17.88	3.20
LinkedIn	30	14.60	3.64	30	16.70	3.74
Don’t know	16	16.44	4.70	16	16.63	3.24

Note: n=valid cases; Mean of aggregate score of scale; SD=standard deviation of scale.

As per frequency of usage, the key finding of the statistical analysis is that there were significant differences between preferences of the respective SNS in terms of visual content preference on SNS. One-way ANOVA showed significant differences between the most preferred SNS and this outcome variable, with F (5, 301) = 12.35, p < .001. Notably, respondents whose most

preferred SNS was Instagram exhibited a significantly higher visual content preference than for all the other SNS. This was followed by those who reported Facebook as their favourite SNS showing significantly higher preference for visual content compared to those that favoured Twitter, Pinterest or LinkedIn, as presented in Table 31 in Appendix H. For verbal content preference on the other hand, there was no significant differences between the means based on the most preferred SNS, with one-way ANOVA resulting in F (5, 301) = 0.80, p = .55.

An evaluation of prior academic studies shows that very little (if any) research has been conducted to examine SNS usage or preference differences in the context of visual and verbal content preference. However, given the differing focus and technical features of each platform (Hughes et al., 2012; Kietzmann et al., 2011), the results found in this study are generally unsurprising. For instance, the findings that indicated higher usage of Instagram was significantly related to higher visual content preference was to be expected, given that this SNS is a photo and video sharing mobile app (Instagram, 2015a) that therefore has a strong appeal for its users based on visual content.

For Facebook, which is a broadly appealing SNS for two-way online socialising (Hughes et al., 2012), marketing research findings indicate that almost half (47%) of Facebook users report that one of the major reasons for using the site is to see photos and videos from their friends (Smith, 2014a). Therefore, as per Instagram, it was also unsurprising that higher usage of Facebook site in the research findings would be associated with higher visual content preference.

Conversely to Facebook, LinkedIn is focused on professional interaction with business connections (LinkedIn, 2015) rather than personal interaction with “friends” (Hughes et al., 2012). As a result, the users of LinkedIn, particularly those that prefer it over other SNS, are likely not primarily focused on socially driven visual content such as photos and videos, but rather more career centred information and advice, company and job research and related professional networking tools (LinkedIn, 2015). Hence, it is not surprising that the research findings indicate that those who prefer LinkedIn the most would have a lower visual content preference than for those that prefer other SNS.

In a similar vein, Twitter seems to be more focused on the sharing of opinion and information among followers (Wu et al., 2011), particularly information relating to breaking news (beyond the realm of family and friends), politics and current affairs. For instance, a recent study by the Pew Research Center found that almost two-thirds (63%) of Twitter users in the USA report that this site serves as a source of news regarding issues and events unrelated to their immediate social circle (Barthel, Shearer, Gottfried, & Mitchell, 2015). Therefore, results of this study indicating a directional, but not statistically significant relationship between those that use or prefer Twitter and verbal content preference, is somewhat surprising.

A possible explanation of this could be found in the general movement across various SNS to be more visually appealing to users, including Twitter. The site has become much more visually focused in its design recently, including the inclusion of custom hashtag emojis for brands and major events as previously mentioned (Johnson, 2016; Laffertey, 2015). In addition, in May 2014 the site revamped its design, making it more visually focused and similar to Facebook (Schroeder, 2014), such as increasing the size of profile pictures and enlarging images posted in tweets (Bellona, 2014). These recent changes may therefore reduce its previously text-dominant focus of tweets, and hence no significant preference was found for verbal content among those who use or prefer Twitter the most.

Finally, no significant differences were found for Pinterest usage or preference in terms of content preference on SNS in the study. This is particularly unexpected in terms of the lack of a significant relationship with visual content preference, given that Pinterest, like Instagram, is an image-sharing SNS. However, these results may align with reports indicating a global decline in its popularity, in particular with a reduction in its user base in South Africa between 2013 and 2014 (World Wide Worx & Fuseware, 2014b). It would seem in the study that SNS users' needs for visual stimulation were being better fulfilled elsewhere (such as Instagram or Facebook) and hence a strong association with visual content preference was not found. Coupled with this is the fact that only 17 respondents (i.e. 6% of the research sample) indicated that this was

their favourite SNS, and the majority (70.6%) of respondents did not use the site at all (or used less than once a month). Therefore, the small sample size and infrequent or non-usage of the site may have limited the statistical analysis, and may explain why no significant differences in the outcome variables were found for Pinterest.

The key focus of the study, in terms of the relationships between personality traits and content preference on SNS, is discussed in the following section.

5.4 Sub-problem 1 discussion: Personality traits and visual content preference on SNS

The first sub-problem of this study was to examine the effect that the personality traits, need for cognition and need for affect, had on preference for visual content on SNS in South Africa. In terms of the specific hypotheses, the first hypothesis predicted a positive relationship between the need for affect (NFA) and visual content preference on SNS and the second hypothesis predicted a negative relationship between the need for cognition (NFC) and visual content preference on SNS. Examination of the current study data through analysis of variance (ANOVA), correlation and multiple regression analyses provided supported for both hypotheses, given that both personality traits were found to be significant predictors of visual content preference on social network sites. The results are discussed in the following section.

5.4.1 *Hypothesis 1 discussion: The relationship between need for affect and visual content preference*

H1$_0$: *There is no relationship between the need for affect (NFA) and visual content preference on SNS*

H1$_a$: *There is a positive relationship between the need for affect (NFA) and visual content preference on SNS*

Confirmation of the first hypothesis in the study through multiple regression analysis provides evidence that the more predisposed an individual is to

process feelings and approach emotion-inducing experiences (i.e. higher NFA), the more inclined they would be to engage with vivid content on social network sites, such as pictures and videos (i.e. higher visual content preference).

Support for the first hypothesis is consistent with findings from previous studies. For instance, an exploratory experiment conducted by Sojka and Giese (2006) discovered that individuals that were “affective processors” (individuals with high NFA and low NFC) reacted more positively to a visual print advertisement than other types of personality processing style.

Similarly, an earlier study by Sojka and Giese (2001) tested preference for visual and verbal information on a self-report survey using the Style of Processing scale developed by Childers et al. (1985) and how this relates to the same personality traits tested in the present research. ANOVA results showed that “Feelers” (individuals with high NFA and low NFC) demonstrated a greater preference for visual information than “Thinkers” (individuals with high NFC and low NFA), with F (3, 367) = 9.31, p = .00. Correlation analysis in this study also found significant positive correlations between NFA and visual processing (r = .41, p = .00) (Sojka & Giese, 2001), however these correlations were much larger than those found in the present study (r = .12, p <.05).

Differences in the size of the correlations between the variables may be explained by the fact that former studies in this field, e.g. (Sojka & Giese, 2001), used the original Style of Processing scale (Childers et al., 1985) which was developed to measure an individual’s tendency or preference to engage in a verbal and/or visual style of processing stimuli in their environment. The current study however adapted the scale to be relevant to verbal and visual content-related activities on SNS, which was a very specific context compared to the general context of information processing outlined in the original SOP scale. Therefore, weaker correlations may be found in the current study due to the context of visual preference being restricted to SNS behaviour, as opposed to an individual’s general processing of visual information.

Finally, studies in psychology and social communication have shown that a large proportion of meaning in spoken language is obtained from nonverbal

indicators such as body language and facial expression, e.g. (Friedman, Prince, Riggio, & DiMatteo, 1980; Nowicki & Duke, 1994). Leading from this, high emotional intelligence, a complementary construct to NFA (Appel et al., 2012; Engelberg & Sjöberg, 2004), is strongly associated with emotion-related skills, such as the ability to accurately recognise and express emotional information, including nonverbal communication (Salovey & Mayer, 1990). Given that a large part of this type of communication tends to be appraised and expressed visually (such as facial expressions and body language) (Mayer, DiPaolo, & Salovey, 1990; Salovey & Mayer, 1990), this may give further support to the relationship between need for affect and visual content preference.

In the context of current SNS trends, this association may already be currently demonstrated by the increase of high visually animated icons (i.e. emojis) as shorthand of SNS users' emotional expression. As previously mentioned, two of the world's biggest SNS (Facebook and Twitter) have both recently enhanced their functionality through the use of emojis – Facebook with "Reactions" and Twitter with custom hashtags (Facebook, 2016; Laffertey, 2015). In light of the "visual revolution" being explored in this current research, this emojis trend further supports a link between the use of visual communication to allow both consumers and brands to be more expressive, in terms of conveying more extensive affective information and promotional messages.

In conclusion, based on the research findings for hypothesis 1 – as well as academic support from social psychology regarding nonverbal communication and observed SNS trends such as emojis – the need for affect does appear to have a positive relationship with visual content preference on social network sites.

5.4.2 *Hypothesis 2 discussion: The relationship between need for cognition and visual content preference*

H2$_0$: *There is no relationship between the need* for cognition (*NFC) and visual content preference on SNS*

H2$_a$: *There is a negative relationship between the need* for cognition (*NFC) and visual content preference on SNS*

Acceptance of the second hypothesis suggests that the more an individual likes engaging in thinking and cognitively demanding activities (i.e. higher need for cognition), the less they would like to process visual content such as pictures or videos on social network sites (i.e. lower visual content preference).

The results of the present study are aligned with a previous similar study in terms of the direction of the predicted relationship. Research by Sojka and Giese (2001) also found a weak negative correlation between NFC and the visual processing subscale (r = -.05; p = .39), however this correlation was not significant. In contrast, however, the findings of the present study were that these were marginally significant in the correlation analysis (r = -.10, p = .09) and conclusively significant predictors in the regression analysis (β = -.13, $p < .05$).

From a practical perspective, a potential explanation for the negative relationship between need for cognition and visual content preference in the study could be due to the type of content regularly posted on SNS. A study by Cavalli et al. (2011) on the influence of Facebook on the media habits of university students, found that most students agreed that the content on Facebook is predominantly frivolous and trivial. Similarly, Pew Research Centre reported findings that people sharing too much information about themselves was one the greatest annoyances that Facebook users had with the site (Smith, 2014a).

Closely related to these findings is the recent “selfie” phenomenon – the act of taking and posting a self-taken photograph online, particularly on social media (Wickel, 2015). These types of photographs, aided with technological

developments such as smartphones and selfie sticks, have helped increase the popularity of image-based SNS such as Instagram, which reportedly has 1 000 selfies uploaded every ten seconds (Malcore, 2015). Furthermore, analysis of the top 10 hashtags used on Instagram found that these self-portraits were one of the most popular types of photography shared on the app, with 67 million posted with the hashtag "*#me*" in 2013 (Knibbs, 2013b).

In light of this, it could therefore be argued that in the context of the rise of highly visual content on social network, much of this content tends to be superficial and somewhat vain, particularly selfies. This type of stimulus is contrary to the nature and preferred processing of NFC, in which people are highly driven to engage in more thought provoking, cognitively demanding activities (Cacioppo & Petty, 1982). Therefore, with regards to appealing to certain personality traits, visual content on social network – particularly given the frivolous nature of much of it – may not give people with high NFC the mental stimulation and knowledge acquisition they desire.

A recent study by Zhong et al. (2011) examining the link between how much time people spend on SNS and their likelihood to enjoy participating in effortful thinking (i.e. NFC), may give support to this speculation. Both regression and correlation analyses showed that SNS use overall had a negative association with NFC. Therefore, individuals with a high NFC tended to use SNS less often than people with a low NFC, suggesting that effortful thinking may be associated with less social networking (Zhong et al., 2011). The authors proposed that those with higher NFC were perhaps more likely to seek mental stimulation through other cognitively challenging tasks (such as searching for product information) whereas those with lower NFC were more likely to feel comfortable with the rich peripheral cues provided on SNS and therefore spend more time on it. This is aligned with the theoretical argument presented earlier regarding the Elaboration Likelihood Model (ELM) of persuasion, which would suggest that individuals with high NFC would be less influenced by other peripheral attributes (such as pictures) on SNS. Further research would however be required to confirm this speculation, particularly in light of the increasing pervasiveness of visual content on SNS.

One can therefore conclude that the research results for hypothesis 2 – combined with observed SNS trends such as selfies and theoretical evidence from the Elaboration Likelihood Model (ELM) of persuasion – show that the need for cognition does seem to have a negative relationship with visual content preference on social network sites.

5.5 Sub-problem 2 discussion: Personality traits and verbal content preference on SNS

The second sub-problem of this study was to examine the effect that the personality traits, need for cognition and need for affect, had on preference for verbal content on SNS in South Africa. In terms of the specific hypotheses, the third hypothesis predicted a positive relationship between the need for cognition (NFC) and verbal content preference on SNS and the fourth hypothesis predicted a negative relationship between the need for affect (NFA) and verbal content preference on SNS. Examination of the current study data through correlation and multiple regression analyses provided supported for the third hypothesis, however a significant relationship was not found for the fourth hypothesis, which was thus rejected. The results are discussed below.

5.5.1 *Hypothesis 3 discussion: The relationship between need for cognition and verbal content preference*

$H3_0$: *There is no relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

$H3_a$: *There is a positive relationship between the need for* cognition (*NFC) and verbal content preference on SNS*

Confirmation of the third hypothesis in the study supports the idea that the more predisposed an individual is to seek out mental stimulation and acquire knowledge (i.e. higher NFC), the more they would like to process verbal information on social network sites such as text and links (i.e. higher verbal content preference).

Other studies, such as Sojka and Giese (2001), similarly found that high NFC individuals preferred verbal information. Specifically, ANOVA results showed that “Thinkers” (individuals with high NFC and low NFA) demonstrated a greater preference for verbal information compared to “Feelers” (individuals with high NFA and low NFC), with F (3, 367) = 5.31, p = .001 (Sojka & Giese, 2001). Furthermore, this study also found significant positive correlations between NFC and verbal processing (r = .41, p = .00) (Sojka & Giese, 2001) which were aligned with the present research results (r = .21, p < .01). Later, in an exploratory experiment, the authors found directional support that cognitive processors may have more positive advertisement and brand attitudes towards verbal advertisements than other types of stimuli, although this was not significant (Sojka & Giese, 2006).

Further support for the research findings are found in a study by Hughes et al. (2012), which examined the link between effortful thinking (i.e. NFC), the Big Five personality traits and the use of social network sites Twitter and Facebook. In this study, the authors speculated that differences in preference for either SNS could be explained by personality and the type of information sought on the SNS platform itself. The results showed that need for cognition had a negative correlation with information seeking on Facebook and a positive correlation with information seeking on Twitter. The correlation results suggested that the information sought and distributed on Facebook was likely more a sign of procrastination and could be obtained socially, for instance by asking other users. The positive correlations found for Twitter indicated a more goal-directed use of information sought on the SNS, such as for study or work purposes. Furthermore, the authors speculated that the information sought on Twitter might be more cognitively based, such as political or academic information, which is best obtained through source materials such as links, which are often ‘tweeted’ (Hughes et al., 2012). This corresponds with previous findings that indicated that Twitter usage is more focused on information and opinion sharing (Wu et al., 2011) than Facebook, which is more socially focused (Hughes et al., 2012).

This is aligned with the predictions of this study, as verbal stimulus on SNS (such as links) give individuals with a high NFC the opportunity to obtain more information. In terms of the Elaboration Likelihood Model (ELM) of persuasion, individuals with high NFC were more likely to be influenced by the calibre of arguments (i.e. use the central route of persuasion), with the enjoyment of processing this information being a motivating factor to them (Cacioppo et al., 1986). Therefore, it would appear that on SNS, verbal content (such as descriptive posts and articles that require more reading) is a more effortful and rational informational format that appeals to high NFC individuals' desire to think deeply and mentally challenge themselves.

Thus, it is concluded from the study findings – combined with similar findings in prior studies and theoretical evidence from the Elaboration Likelihood Model (ELM) of persuasion – that the need for cognition does appear to have a positive relationship with verbal content preference on social network sites.

5.5.2 *Hypothesis 4 discussion: The relationship between need for affect and verbal content preference*

H4$_0$: *There is no relationship between the need for affect (NFA) and verbal content preference on SNS*

H4$_a$: *There is a negative relationship between the need for affect (NFA) and verbal content preference on SNS*

Hypothesis 4, which predicted that the more an individual has the need to feel and understand emotions in oneself and others (i.e. higher NFA), the less they would like to process verbal components of SNS (i.e. lower verbal content preference), was not supported in the present research.

The lack of support for this relationship was also found in past research. Sojka and Giese (2006) found marginal support for the prediction that high affect individuals will show more negative attitudes towards verbal print advertisements than low affect individuals, with analysis of variance indicating F (1, 66) = 3.66, p = .06. In an earlier study by the same authors (Sojka &

Giese, 2001), there was an unexpected significant positive correlation between NFA and verbal processing (r = .41, p = .00). Although a very weak, positive correlation was found between NFA and verbal content preference in the present study, it was not significant (r = .004, p = .95) and NFA was not a significant predictor of verbal content preference in the regression analysis (β = -.04, p = .47).

These somewhat contradictory results could potentially be explained by the general pervasiveness of verbal content on social network sites. A large amount of content on SNS is still quite text-based, with even highly visual SNS such as Instagram including verbal components such as captions and hashtags to improve understanding of what the uploaded photo means, expand the ease of searching and categorisation of the photos, as well as overall enhancement of the story told (Sornoso, 2014). Thus, despite the "visual revolution" trend seen, words are still essentially the foundational content on which most SNS platforms are based.

In addition, major SNS Facebook, has reportedly designed its algorithm such that status updates containing text and links obtain higher visibility on users' newsfeeds, compared to status updates with other types of content (Roeder, 2014). As a result, it is not entirely surprising that an individual's personality (in terms of their desire to approach or avoid emotions) would have little effect or influence on their preference for verbal content, given how widespread this type of content is. However, further research would be required to test this hypothesis.

This present research therefore concluded from the study findings – combined with findings in prior studies and support from reported SNS trends – that there is no conclusive relationship between the need for affect (NFA) and verbal content preference on SNS.

5.6 Conclusion

In summary, the results supported the predictions of the first three hypotheses and disconfirmed the fourth hypothesis. Visual content preference was found to have a positive relationship with the need for affect and a negative relationship with the need for cognition. The need for cognition was shown to have a positive relationship with verbal content preference on social network sites, and somewhat unsurprisingly, the need for affect did not have a significant effect.

The research findings were discussed in light of prior studies, theoretical evidence from the literature and observed trends in the SNS domain, which generally found support for the results. Aside from the hypothesis, demographic variables, specifically age and gender, showed mixed results in terms of their impact on content preference on SNS, as well as on the other key research variables. Similarly, SNS usage variables were also somewhat inconclusive in their association with the outcome variables, although frequent usage and preference of Facebook and Instagram (and LinkedIn to a lesser extent) showed a significant relationship with visual content preference. The following chapter concludes the overall research report.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions of the study. First, the findings of the research are summarised and the conclusions are drawn in the context of other published studies (Section 6.2). Next, the theoretical and practical implications are outlined in the recommendations (Section 6.3). To conclude, the study limitations are discussed and suggestions for areas of future research (Section 6.4) are outlined.

6.2 Conclusions of the study

The aim of this study was to investigate the relationship between personality traits (need for cognition and need for affect) and content preferences (visual and verbal content preference) on social network sites (SNS) in South Africa. Based on the results, one can conclude that personality does have an influence on SNS users' preference for visual or verbal content on these platforms.

However, it is important to note that multiple regression analysis data in the present study indicated that the two personality traits analysed in this study only accounted for approximately 2% of the variance in visual content preference (with adjusted $R^2 = .02$) and approximately 4% of the variance in verbal content preference (with adjusted $R^2 = .04$). In other words, over 95% of the variance in the visual and verbal content preference variables was explained by other predictors outside of the research model. This therefore means that while there is a connection between the personality traits of SNS users (in terms of NFC and NFA) and content preference, other factors should be explored and taken into account.

A preliminary investigation of the potential impact of the demographic profile of the sample (in terms of age and gender) as well as SNS usage (in terms of frequency and preference), was also conducted in the study. Although the relationships between these variables was not hypothesised in the research

model, the results of the data analysis helped to provide some potential factors that could explain the variance in content preference on SNS.

The present study and past research (Amichai-Hamburger & Vinitzky, 2010; Correa et al., 2010) found inconsistent results in terms of the prediction of gender with personality on certain SNS behaviour. Age on the other hand, while also producing mixed findings, showed the most promise in explaining the variance in content preference on SNS. This variable explained the most variance in the visual content preference model and was one of the most predictive variables analysed in a study by Hughes et al. (2012). However, even with the inclusion of these demographic variables, the vast majority of variance (80%-90%) in these social network site outcome variables remained unexplained in past research, e.g. Hughes et al. (2012), as well as in the present study.

In terms of SNS usage, approximately a quarter (25%) of the variance in visual content preference was explained by the frequency of SNS usage, which is quite a significant amount of variance in this outcome variable. Frequent usage and preference of Facebook and Instagram (and LinkedIn to a lesser extent) also had a significant relationship with visual content preference. However, it is important to consider whether the direction of the relationships between the SNS usage variables and content preference that has been examined in the report is actually reversed. So for instance, it could be argued that instead of a preference for (or high usage of) Instagram predicting higher visual content preference on SNS, those that are predisposed to visual content on SNS are more likely to prefer (or use) SNS such as Instagram. Given that reasons for preference or usage of each SNS was not specifically investigated in this study, further research would need to be conducted to conclusively explain the relationship between these variables.

The main focus of this research however was on the effect of personality factors, NFC and NFA, on SNS content preference. Recent studies that have investigated the impact of personality traits on certain social network site phenomena have generally also produced small R^2 values in the regression analysis. For instance, Amichai-Hamburger and Vinitzky (2010) found a strong

connection between the “Big Five” personality traits and Facebook behaviour, however the personality traits only explained 7% of the variance in number of friends (adjusted R^2 = .07, p = .05) and 5% of the variance in personal information uploaded (adjusted R^2 = .05, p = .05). Other similar examinations of the effect of the Big Five personality traits found, for instance, that these variables explained from 3% to a maximum of 13% of variance in social network behaviours and motivations (Seidman, 2013) and 3.2% of variance in social media use (Correa et al., 2010). Similarly, the significant associations found in a study by Zhong et al. (2011) between certain personality traits (including the need for cognition) and SNS use produced an adjusted R^2 = .11 (i.e. 11% of variance). All these studies concluded that while personality was related to SNS usage, it was not as influential as they had expected or as previous literature had suggested (Amichai-Hamburger & Vinitzky, 2010; Correa et al., 2010; Seidman, 2013; Zhong et al., 2011).

Thus the results of the present study are generally consistent with past research. Caution must therefore be used when interpreting the influence of the personality traits in the research model – although the relationships between the variables are generally statistically significant, they are relatively weak and only explain a small amount of variance, so should not be overstated.

6.3 Recommendations

The research gap in this study stemmed from the current lack of academic studies examining the relationship between individual characteristics (particularly personality traits) and preferences for various aspects of SNS (particularly visual and verbal content), particularly within an emerging market such as South Africa. The theoretical and practical implications and recommendations that follow from this research are outlined below.

6.3.1 *Theoretical contributions*

From a theoretical viewpoint, this study adds to current understanding in consumer behaviour literature by identifying the interrelationship of personality

and content preferences on social network sites, particularly within an emerging market context and within the new online media sphere. The key outcome generated from this study is that individual characteristics such as personality traits can, in part, explain differences in SNS content preference.

Prior recent studies, primarily conducted in developed countries such as the USA, have found that various personality traits did have a relationship with various aspects of SNS usage, however as mentioned, this was not as influential as expected and further investigation of other factors was required (Amichai-Hamburger & Vinitzky, 2010; Chu & Kim, 2011; Correa et al., 2010; Gangadharbatla, 2008; Hughes et al., 2012; Ross et al., 2009; Seidman, 2013; Zhong et al., 2011). This study, conducted in South Africa, also found personality to have a significant, albeit limited, prediction of differential preferences between visual and verbal content on SNS. Therefore, this research adds to the academic body of knowledge regarding the social network site phenomena, and also extends the generalisability of the research findings beyond a developed country context and into an emerging market context such as South Africa.

Finally, the two particular personality traits investigated in this study – the need for cognition (NFC) and need for affect (NFA) – were found to explain information processing preference in prior exploratory research studies (Sojka & Giese, 2001, 2006). It should be noted that studies were conducted within the context of traditional above-the-line advertising, such as print media. This present study, which was conducted in the context of social network sites, shows that the differential findings discovered in these previous studies also applied to a newer online media context. In particular, a positive relationship was also found between NFA and visual stimuli, as well as a positive relationship between NFC and verbal stimuli, as per these past studies (Sojka & Giese, 2001, 2006), however this study confirmed this in terms of content preference in the SNS environment. Therefore, this current study contributes to the theoretical understanding of these constructs in a new media sphere and offers an academic explanation towards the influences of the observed “visual revolution” trend in SNS.

6.3.2 *Practical implications*

Increasing research and marketing attention has been directed towards investigating the factors that influence content engagement on social media and in online communities in general (Aksoy et al., 2013; De Vries et al., 2012; Goh et al., 2013; Heinonen, 2011; Sashi, 2012). From a practical perspective, this study provides relevant marketing applications for companies in the development and selection of content on SNS that will be engaging with their consumers, because the format (i.e. visual or verbal) is consistent with their consumers' personality and processing preferences.

Visual content on SNS

In the design of marketing campaigns on SNS, the findings which support Hypothesis 1 indicate that in order to effectively appeal to individuals who like to approach emotions (i.e. high NFA), more emphasis should be given to the visual elements (such as pictures and videos) in SNS content. Furthermore, as suggested by Sojka and Giese (2006), using an emotive appeal with rich, visual-based content might best attract individuals with a high NFA, given both the visual and affective aspects. However, the present research has also showed, through the lack of support for Hypothesis 4, that individuals with a high need for affect do not necessarily dislike the verbal components on social network sites, given that there was almost no relationship between these variables. It is therefore suggested however, that the amount of verbal content is kept limited in comparison to visual content when an affective appeal is being used on social network sites, in order to optimise engagement.

Furthermore, in light of support from this study for higher NFA being associated with higher visual content preference on SNS, consideration should also be given to using highly recognisable elements, such celebrity endorsements, in branded content. Sojka and Giese (2006) suggested that in view of the Elaboration Likelihood Model (ELM) of persuasion (Petty & Cacioppo, 1986), these peripheral cues, are more easily depicted in a visual format, and would likely be effective at catching the attention of and increasing engagement with consumers on SNS with an affective type of personality processing.

Similarly, in line with global rise of emojis on SNS (Hern, 2015) such as Reactions on Facebook (Greenberg, 2016; Stinson, 2016) and branded hashtag emojis on Twitter (Laffertey, 2015; Olanoff, 2015), advertisers should increasingly consider using these in their strategies to increase engagement with SNS users, particularly those with higher NFA. This could include using these animated icons in their messaging and encouraging their consumers to respond to posts using emojis, even within text-based content.

Building on suggestions by Sojka and Giese (2006), it could also be beneficial for marketers to use different types of content on SNS for certain products or categories, depending on the involvement of the offering. 'Involvement' refers the amount of personal relevance that the purchase or product has for that consumer. Purchases that are very important to the consumers and therefore instigate high problem solving and information processing are defined as high-involvement, with the contrary being the case for low-involvement purchases (Schiffman et al., 2010).

As previously mentioned, emotional advertisements have been found to be more effective for low involvement and hedonic items, than for high involvement or utilitarian products (Geuens et al., 2011). In light of this, and given the positive relationship found between NFA and visual stimuli in the study, visual content on SNS might be more effective for products such as clothing, impulse purchases (such as chocolate) and luxury goods (such as designer perfume) (Geuens et al., 2011; Laurent & Kapferer, 1985; Mittal, 1989), which are generally considered to fall into the aforementioned categories.

Furthermore, in accordance with the "visual revolution" observed in SNS, brands in the categories aligned to visual and affective content (i.e. low involvement and hedonic products) could also consider having an increased presence on Instagram, particularly given its recent high growth in South Africa (van Zyl, 2015). The findings of the study also give support to its increasing popularity in the country, considering that the app was the most preferred SNS (18.6%) in the sample after Facebook (49.2%). There was also some indication of the declining growth of Twitter seen globally (Kumar & Abutaleb, 2015) and Pinterest seen locally (World Wide Worx & Fuseware, 2014b) seen in the study,

with the research sample indicating that these were their least preferred SNS (23.8% of the sample saying Twitter and 19.9% saying Pinterest). Therefore marketing managers in South Africa should evaluate how effective each SNS is for their particular brand, especially considering that the vast majority (over 90%) of the largest brands in the country reportedly use Twitter for instance (World Wide Worx & Fuseware, 2014b).

Verbal content on SNS

Given the results which support Hypothesis 3, it is recommended that verbal content (such as text and links) should be included in order to appeal to consumers who enjoy mental stimulation (i.e. high NFC). In addition, as suggested by Sojka and Giese (2006), combining the type of stimuli with the underlying personality characteristic might further attract different types of personality processors. Therefore, using a rational, cognitive appeal with descriptive, text-based content might best attract individuals with a high NFC, given both the verbal and cognitive aspects. In addition, in light of the support for Hypothesis 2, it is recommended that visual elements such as pictures and videos be used sparingly for cognitive appeals, given the negative relationship between NFC and visual content preference.

It could also be more advantageous to use verbal content on SNS for products or categories that require consumers to use high problem solving and information processing when making a purchase, particularly given the positive relationship found in the study between NFC and verbal stimuli. Therefore, for high involvement and/or utilitarian products, particularly those with high perceived risk, such as durable goods, automobiles, insurance policies, a house, etc. (Geuens et al., 2011; Laurent & Kapferer, 1985; Mittal, 1989), descriptive verbal content on SNS might be the best way to engage consumers. Further research would however be needed to confirm the relationship between content preference and product category/involvement levels.

A recommendation for marketing practioners, given the overload of content and commercial messages competing for the limited time and attention of SNS users (Rodriguez, Gummadi, & Schoelkopf, 2014; Webster & Ksiazek, 2012),

would be the greater use of links to give users the opportunity to further engage with their content. For instance, an attention grabbing picture could be used as enticement for further visual content (such as a video), and a provocative text-based post to lead users to engage in further verbal content (such as the complete article) via a link. This would allow SNS posts to remain relatively concise but give users the opportunity to read or see more in accordance with their personality, and further interact with the advertiser.

Finally, in terms of segmentation strategies for different age groups of SNS users – it is recommended that content targeted at younger users (which tend to have a visual content preference) should contain an uncomplicated verbal description, accompanied by strong visual cues (pictures and videos). Furthermore, given that these 'digital natives' tend to be more tech savvy and comfortable using online social technologies than older age groups (Kaplan & Haenlein, 2010; Pfeil et al., 2009), more advanced features can also be included in content targeted at younger age groups, such as emojis. Conversely, given that older users tend to have a higher NFC (and therefore more likely to have a verbal content preference), content targeted at this segment can contain more detailed and mentally stimulating, text-based information. The limitations and suggested areas for future research are discussed in the following section.

6.4 Limitations and suggestions for future research

The present study results should be considered in light of the following limitations and suggestions for future research.

The first limitation concerns the research design and data collection instrument. Given that a self-report measure was used for all of the research variables, method bias may occur in terms of exaggerating model parameter estimates (Bourque & Fielder, 2003). Therefore, caution must be used when interpreting the relationships that were observed between the variables, given that internal validity is constrained, as noted in a similar study by Chu and Kim (2011). In addition, the outcome variables could not be controlled by the researcher (as

per an experimental design) and one can therefore not exclude other variables that may have influenced the results. Therefore, causality between the variables can only be inferred, and not established (Bourque & Fielder, 2003). Future research could examine user information of actual SNS activities rather than self-report information, which Amichai-Hamburger and Vintzky (2010) and Hughes et al. (2012) suggested would be more objective. This could include designing an experimental study with SNS posts that contain different types of content (such as pictures, videos, links, shorter text, longer text, etc.) and then analysing which types of content SNS users actually engage with more (such as the number of "likes", comments, shares, etc.). Self-report measures could still be used to assess users' personality traits, however the outcome variable in terms of SNS usage would be based on users actual (and not reported) behaviour.

The second limitation concerns the sample and sampling constraints that applied to this study, in terms of using non-probability sampling techniques (through convenience sampling) and the participants being university students. Therefore, the results could not be generalised to all SNS users in South Africa, and hence external validity was constrained (Bourque & Fielder, 2003). Although two geographically different cities in the country were used (in terms of Cape Town and Johannesburg) these were based in two provinces and therefore excluded the seven other provinces in the country. Also, when taking into account that the research was conducted in large metropolitan cities, if those living in smaller towns or rural areas were included in the study, the research findings could potentially differ greatly. Thus, it is recommended that in future, a broader geographic sample – beyond just university students and also using probability sampling (Bourque & Fielder, 2003) – be used in order to better represent SNS users in South Africa.

Another limitation of the study related to the reliability and validity of the adapted scales. Specifically, the outcome variables (visual and verbal content preference) were adapted for this study from the visual and verbal sub-scales of the Style of Processing scale (Childers et al., 1985) and hence assurance of their reliability and validity was not been established in prior research. In

particular, the reliability results indicated that substantial changes would need to be made to the scales (such as removing approximately a third of the items) in order for satisfactory reliability scores of $\alpha > 0.7$ (Maree, 2007) to be achieved. Future research could therefore include the original SOP scale (Childers et al., 1985) with the adapted Content Preference on SNS sub-scales on the same self-report questionnaire, in order to compare the item data and identify possible areas of improvement to the reliability of the adapted scales.

Finally, a limited number of analysis variables may have constrained interpretation of the research findings. The present study assumed a direct causal relationship between the specified personality traits (NFC and NFA) and content preference (visual and verbal) on SNS. However, other personality traits, such as those in the Five Factor model of personality (Digman, 1990) could have an impact on the outcome variables. In addition, demographic factors and other individual characteristics (such as attitudes and motivation of SNS usage) may have also had an influence. Therefore caution must be made in interpreting the results, as the interactions of other variables were not examined in this study.

Other suggestions for future research are as follows:

- Conduct the research in other emerging markets, such as the four largest developing nations, commonly referred to as the BRIC countries (Brazil, Russia, India and China) (O'neill, 2001). The research could also be replicated in developed countries (such as the United States of America and the United Kingdom) in order to assess whether the results of this study are found in these types of countries.

- Investigate whether the predicted relationship between content preference and type of product category or level of involvement of the purchase applies. Specifically in terms of whether verbal content is more engaged with than visual content for high involvement and/or utilitarian products and similarly, whether visual content is more engaged with than verbal content for low involvement and/or hedonic products.

- Explore whether the usage of social network site used has any impact on visual and verbal content preference, in terms of underlying reasons and motivations for usage of various SNS
- Investigate other growing SNS and social media apps (such as Snapchat) in the context of the research problem, particularly within an emerging market.

In summary, this study did find a relationship between personality and the types of content users prefer on SNS in South Africa. However, further exploration of other factors that could have provided additional explanation of the outcome variables (visual and verbal content preference on SNS) in the research model is required. Therefore, future studies can expand by investigating whether different personality traits, as well as other individual differences between social network sites users – such as device usage (e.g. mobile devices versus non-mobile devices), internet experience and access; SNS motivations and attitudes, as well as the interaction of demographic factors (such as age and gender) – could potentially have an effect on content preference, and explain the “visual revolution” trend on SNS overall. Examination of a wider range of variables may add to understanding of the emerging body of knowledge of SNS use within the consumer behaviour discipline in marketing, and particularly the Consumer Decision Making theoretical framework. However, the research results suggest that investigation of personality and content preference on social network sites warrants further consideration and that this study provides a starting point for future research in emerging markets and beyond.

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APPENDIX A

Style of Processing Scale (Childers et al., 1985)

EXHIBIT

STYLE OF PROCESSING SCALE

INSTRUCTIONS: The aim of this exercise is to determine the style or manner you use when carrying out different mental tasks. Your answers to the questions should reflect the manner in which you typically engage in each of the tasks mentioned. There are no right or wrong answers, we only ask that you provide honest and accurate answers. Please answer each question by circling one of the four possible responses. For example, if I provided the statement, "I seldom read books," and this was your *typical* behavior, even though you might read say one book a year, you would circle the "ALWAYS TRUE" response.

Item	Response			
	ALWAYS TRUE	USUALLY TRUE	USUALLY FALSE	ALWAYS FALSE
1. I enjoy doing work that requires the use of words (W)	1	2	3	4
*2. There are some special times in my life that I like to relive by mentally "picturing" just how everything looked (P)	1	2	3	4
*3. I can never seem to find the right word when I need it (W)	1	2	3	4
4. I do a lot of reading (W)	1	2	3	4
*5. When I'm trying to learn something new, I'd rather watch a demonstration than read how to do it (P)	1	2	3	4
*6. I think I often use words in the wrong way (W)	1	2	3	4
7. I enjoy learning new words (W)	1	2	3	4
*8. I like to picture how I could fix up my apartment or a room if I could buy anything I wanted (P)	1	2	3	4
9. I often make written notes to myself (W)	1	2	3	4
*10. I like to daydream (P)	1	2	3	4
*11. I generally prefer to use a diagram rather than a written set of instructions (P)	1	2	3	4
*12. I like to "doodle" (P)	1	2	3	4
*13. I find it helps to think in terms of mental pictures when doing many things (P)	1	2	3	4
*14. After I meet someone for the first time, I can usually remember what they look like, but not much about them (P)	1	2	3	4
15. I like to think of synonyms for words (W)	1	2	3	4
*16. When I have forgotten something I frequently try to form a mental "picture" to remember it (P)	1	2	3	4
17. I like learning new words (W)	1	2	3	4
18. I prefer to read instructions about how to do something rather than have someone show me (W)	1	2	3	4
*19. I prefer activities that don't require a lot of reading (W)	1	2	3	4
20. I seldom daydream (P)	1	2	3	4
*21. I spend very little time attempting to increase my vocabulary (W)	1	2	3	4
*22. My thinking often consists of mental "pictures" or images (P)	1	2	3	4

NOTE: (W) = Verbal items, (P) = visual items, * = items reversed for scoring.

APPENDIX B – Questionnaire (Pen and paper)

The University of the Witwatersrand
Wits Business School
Date: April 2016

Dear Sir/Madam,

Questionnaire: Personality and content preference on social network sites

Thank you for your attention to this academic questionnaire. I am studying towards a Master of Management in Strategic Marketing at the University of Witwatersrand, Johannesburg.

I am currently conducting research for my dissertation entitled: *The relationship between personality and content preferences on social network sites in South Africa*.

I would like to invite you to take part in this study by completing the questionnaire overleaf. The questionnaire can also be completed online on the following survey link: https://wits.eu.qualtrics.com/SE/?SID=SV_6x2pDF1jlTHODfT.

Please note that your participation is voluntary and you have the right to withdraw at any time. You will not be asked to provide any identification information and so your identity and responses will remain anonymous. This research is for academic purposes only and the information obtained will be kept strictly confidential.

The questionnaire will take approximately **10-15 minutes** to complete.

Instructions: Please record your responses by circling the corresponding number, as per the example below:

Q12. What is your gender? *Please circle the appropriate response:*

Male	1
Female	(2)

The study was approved unconditionally by the Wits Business School Ethics Committee of the University of Witwatersrand, Johannesburg. Should you have any queries relating to the research, please feel free to e-mail me (1093561@students.wits.ac.za). Alternatively you may contact my dissertation supervisor, Dr Yvonne Saini (yvonne.saini@wits.ac.za).

Sincerely,

Kambe Mwaba

SECTION 1: SCREENING QUESTIONS

Q1a. What is your age group? *Please circle the appropriate response:*

Less than 18 years	1
18 - 24 years	2
25 - 34 years	3
35 - 44 years	4
45 years and older	5

Please note: If you are younger than 18 years old, please do **NOT** continue with the rest of questionnaire.

Q1b. Please indicate your exact age in the box below?

	years

Q2. Do you use social network sites such as Facebook, Twitter, Instagram, Pinterest or LinkedIn **at least once a month** (*this does **NOT** refer to instant messaging applications such as WhatsApp)?*

Yes	1
No	2

Please note: If you do not use social network sites at least once a month, please do **NOT** continue with the rest of questionnaire.

Q3. Do you work or study in South Africa? *Please circle the appropriate response:*

Yes	1
No	2

Please note: If you do not study or work in South Africa, please do **NOT** continue with the rest of questionnaire.

SECTION 2: SOCIAL NETWORK SITE USAGE

Q4. How frequently do you typically use each of the following social network sites?

	Several times a day	Once a day	Several times a week	Once a week	1-3 times a month	Less than once a month	Don't use / Not applicable
4a. Facebook	1	2	3	4	5	6	7
4b. Twitter	1	2	3	4	5	6	7
4c. Instagram	1	2	3	4	5	6	7
4d. Pinterest	1	2	3	4	5	6	7
4e. LinkedIn	1	2	3	4	5	6	7

Q5. How long have you been using each of the following social network sites?

	Less than 6 months	6 months – 1 year	1 – 2 years	2 – 5 years	More than 5 years	Don't use / Not applicable
5a. Facebook	1	2	3	4	5	6
5b. Twitter	1	2	3	4	5	6
5c. Instagram	1	2	3	4	5	6
5d. Pinterest	1	2	3	4	5	6
5e. LinkedIn	1	2	3	4	5	6

Q6. Which <u>one</u> device do you mainly use to access each of the following social network sites?

	Cell phone	Laptop /notebook	PC/ Desktop computer	Tablet	Other device	Don't use / Not applicable
6a. Facebook	1	2	3	4	5	6
6b. Twitter	1	2	3	4	5	6
6c. Instagram	1	2	3	4	5	6
6d. Pinterest	1	2	3	4	5	6
6e. LinkedIn	1	2	3	4	5	6

Q7a. Of the social network sites that you use, which ONE do you prefer the **<u>most</u>**? *Please indicate your responses for Q7a and Q7b in the table below.*

Q7b. Of the social network sites that you use, which ONE do you prefer the **<u>least</u>**?

	Facebook	Twitter	Instagram	Pinterest	LinkedIn	Don't know
7a. Prefer **most**	1	2	3	4	5	6
7b. Prefer **least**	1	2	3	4	5	6

SECTION 3: PERSONALITY TRAITS

Q8. The following question contains a list of statements that are used to determine certain personality characteristics. There is no right or wrong answer. Please provide as honest and accurate answers as it typically applies to <u>YOUR</u> personality.

For each of the statements below, please indicate to what extent you agree?

Please circle the appropriate responses:

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
8a	I really enjoy a task that involves coming up with new solutions to problems.	1	2	3	4	5
8b	I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5
*8c	Thinking is not my idea of fun.	1	2	3	4	5
*8d	I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	1	2	3	4	5
*8e	I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.	1	2	3	4	5
8f	I find satisfaction in deliberating hard and for long hours.	1	2	3	4	5
*8g	I only think as hard as I have to.	1	2	3	4	5
*8h	I prefer to think about small, daily projects rather than long term ones.	1	2	3	4	5
*8i	I like tasks that require little thought once I've learned them.	1	2	3	4	5

Q8. For each of the statements below, please indicate to what extent you agree?

Please circle the appropriate responses:

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
8j	The idea of relying on thought to make my way to the top appeals to me.	1	2	3	4	5
8k	I would prefer complex to simple problems.	1	2	3	4	5
*8l	Learning new ways to think does not excite me very much.	1	2	3	4	5
8m	I prefer my life to be filled with puzzles that I must solve.	1	2	3	4	5
8n	The notion of thinking abstractly is appealing to me.	1	2	3	4	5
8o	I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	1	2	3	4	5
*8p	I feel relief rather than satisfaction after completing a task that required a lot of mental effort.	1	2	3	4	5
*8q	It's enough for me that something gets the job done; I do not care how or why it works.	1	2	3	4	5
8r	I usually end up deliberating about issues even when they do not affect me personally.	1	2	3	4	5

Q9. Below is a list of statements to determine personality characteristics. There is no right or wrong answer; please provide as honest and accurate answers as it typically applies to YOUR personality. For each of the statements below, please indicate to what extent you agree?

Please circle the appropriate responses:

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
*9a	If I reflect on my past, I see that I tend to be afraid of feeling emotions.	1	2	3	4	5
9b	I feel that I need to experience strong emotions regularly.	1	2	3	4	5
9c	Emotions help people to get along in life.	1	2	3	4	5
*9d	I find strong emotions overwhelming and therefore try to avoid them.	1	2	3	4	5
9e	I think that it is important to explore my feelings.	1	2	3	4	5
*9f	I would prefer not to experience either the lows or highs of emotion.	1	2	3	4	5
*9g	I do not know how to handle my emotions, so I avoid them.	1	2	3	4	5
9h	It is important for me to be in touch with my feelings.	1	2	3	4	5
9i	It is important for me to know how others are feeling.	1	2	3	4	5
*9j	Emotions are dangerous—they tend to get me into situations that I would rather avoid.	1	2	3	4	5

SECTION 4: CONTENT PREFERENCE ON SNS

The following two questions contain a list of statements about the style or manner that you engage with various types of content on social network sites.

Q10. Please rate how frequently you typically do each of the following activities on the social network sites that you use. *Please circle the appropriate responses:*

		Never	Rarely	Some times	Usually	Always
10a	I enjoy reading longer, descriptive posts or articles on social network sites	1	2	3	4	5
10b	I tend to click onto links or expand posts on social network sites in order to read more	1	2	3	4	5
*10c	I prefer posts or articles on social network sites that do <u>not</u> require a lot of reading	1	2	3	4	5
*10d	I struggle to find the right words when I want to post something on social network sites	1	2	3	4	5
10e	I share or forward posts or articles on social network sites that tend to be longer and quite descriptive	1	2	3	4	5
*10f	I just read the headline, caption or first few words rather than the entire post or article on social network sites	1	2	3	4	5

Q11. Please rate how frequently you typically do each of the following activities on the social network sites that you use. *Please circle the appropriate responses:*

		Never	Rarely	Some times	Usually	Always
11a	I enjoy posting original photos or videos that I have taken or created on social network sites	1	2	3	4	5
11b	I spend a lot of time editing photos or videos before posting them on social network sites	1	2	3	4	5
*11c	I <u>dislike</u> sharing or forwarding photos or videos that I have found on social network sites	1	2	3	4	5
11d	There are times when I like to review photos or videos that I have posted on social network sites	1	2	3	4	5
11e	I tend to skim over posts or articles on social network sites and rather look at the photos or videos included	1	2	3	4	5
*11f	I prefer posts or articles on social network sites that do <u>not</u> include many photos or videos	1	2	3	4	5

SECTION 5: DEMOGRAPHICS

Q12. What is your gender? *Please circle the appropriate response:*

Male	1
Female	2

Q13. What is your ethnic group? *Please circle the appropriate response:*

Black/African	1
White	2
Coloured	3
Indian/Asian	4
Other	5

Q14. What is your current work status? *Please circle the appropriate response:*

Working full time	1
Working part time/Freelancing	2
Retired	3
Unemployed	4
Housewife /househusband	5

Q15a. Where do you currently study? *Please circle the appropriate response:*

University of the Western Cape (UWC)	1
University of the Witwatersrand (MAIN CAMPUS)	2
Wits Business School	3
Vega School of Brand Leadership	4
Cornerstone Institute	7
Other	5
Not applicable	6

Q15b. Which degree or programme are you currently studying?

Please circle the appropriate response:

Bachelor's degree / Undergraduate studies	1
Post-graduate diploma / Honour's degree	2
Master's degree / MBA	3
PhD	4
Other	5
Not applicable	6

Q15c. What faculty are you in? *Please circle the appropriate response:*

Commerce, Law and Management	1
Engineering & the Built Environment	2
Health Science	3
Humanities/Arts	4
Science	5
Other	6
Not applicable	7

Q15d. Please indicate whether you are studying full time or part time?

Please circle the appropriate response:

Studying full time	1
Studying part time	2
Not applicable	3

Q16. What is your highest level of education? *Please circle the appropriate response:*

No formal education	1
Primary school	2
Secondary school/matriculated	3
Undergraduate studies *(university/college/technikon)*	4
Post graduate studies (e.g. Honours, Master's degree)	5
Other diploma or certificate	6

Q17. Which province do you reside in? *Please circle the appropriate response:*

Eastern Cape	1	KwaZulu-Natal	4	Northern Cape	7
Free State	2	Limpopo	5	North West	8
Gauteng	3	Mpumalanga	6	Western Cape	9

Q18. For the statistical purposes of this study, please indicate what the total monthly income of your household is?

Less than R10 000	1
R10 000 – R24 999	2
R25 000 – R49 999	3
R50 000 – R99 999	4
R100 000 – R499 999	5
Over R500 000	6
Don't know/Prefer not to say	7

THANK YOU FOR YOUR PARTICIPATION IN THIS ACADEMIC RESEARCH

APPENDIX C – Questionnaire (Online Survey)

Cover page

The University of the Witwatersrand
Wits Business School
Date: April 2016

Dear Sir/Madam,

Questionnaire: Personality and content preference on social network sites

Thank you for your attention to this academic questionnaire. I am studying towards a Master of Management in Strategic Marketing at the University of Witwatersrand, Johannesburg.

I am currently conducting research for my dissertation entitled: *The relationship between personality and content preferences on social network sites in South Africa*.

I would like to invite you to take part in this study by completing the questionnaire overleaf. Please note that your participation is voluntary and you have the right to withdraw at any time. You will not be asked to provide any identification information and so your identity and responses will remain anonymous. This research is for academic purposes only and the information obtained will be kept strictly confidential.

The questionnaire will take approximately **10-15 minutes** to complete.

The study was approved unconditionally by the Wits Business School Ethics Committee of the University of Witwatersrand, Johannesburg. Should you have any queries relating to the research, please feel free to e-mail me (1093561@students.wits.ac.za). Alternatively you may contact my dissertation supervisor, Dr Yvonne Saini (yvonne.saini@wits.ac.za).

Sincerely,

Kambe Mwaba

SECTION 1: SCREENING QUESTIONS

Q1a. What is your age group? (*Please note: If you are younger than 18 years old, please do NOT continue with the rest of questionnaire).*

- ○ Less than 18 years
- ○ 18 - 24 years
- ○ 25 - 34 years
- ○ 35 - 44 years
- ○ 45 years and older

Q1b. Please indicate your exact age (in years) in the box below?

[ ]

Q2. Do you use social network sites such as Facebook, Twitter, Instagram, Pinterest or LinkedIn **at least once a month**? *Please note that this question does **NOT** refer to instant messaging applications such as WhatsApp and Mxit.*

- ○ Yes
- ○ No

Q3. Do you work or study in South Africa?

- ○ Yes
- ○ No

SECTION 2: SOCIAL NETWORK SITE USAGE

Q4. How frequently do you typically use each of the following social network sites?

	Several times a day	Once a day	Several times a week	Once a week	1-3 times a month	Less than once a month	Don't use /Not applicable
4a. Facebook	○	○	○	○	○	○	○
4b. Twitter	○	○	○	○	○	○	○
4c. Instagram	○	○	○	○	○	○	○
4d. Pinterest	○	○	○	○	○	○	○
4e. LinkedIn	○	○	○	○	○	○	○

Q5. How long have you been using each of the following social network sites?

	Less than 6 months	6 months – 1 year	1 – 2 years	2 – 5 years	More than 5 years	Don't use /Not applicable
5a. Facebook	○	○	○	○	○	○
5b. Twitter	○	○	○	○	○	○
5c. Instagram	○	○	○	○	○	○
5d. Pinterest	○	○	○	○	○	○
5e. LinkedIn	○	○	○	○	○	○

Q6. Which one device do you mainly use to access each of the following social network sites?

	Cellphone	Laptop /notebook	PC/Desktop computer	Tablet	Other device	Don't use /Not applicable
6a. Facebook	○	○	○	○	○	○
6b. Twitter	○	○	○	○	○	○
6c. Instagram	○	○	○	○	○	○
6d. Pinterest	○	○	○	○	○	○
6e. LinkedIn	○	○	○	○	○	○

Q7a. Of the social network sites that you use, which ONE do you prefer the **most**?

Q7b. Of the social network sites that you use, which ONE do you prefer the **least**?

SECTION 3: PERSONALITY TRAITS

Q8. The following question contains a list of statements that are used to determine certain personality characteristics. There is no right or wrong answer. Please provide as honest and accurate answers as it typically applies to YOUR personality.

For each of the statements below, please indicate to what extent you agree?

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
8a I really enjoy a task that involves coming up with new solutions to problems.					
8b I like to have the responsibility of handling a situation that requires a lot of thinking.					
*8c Thinking is not my idea of fun.					
*8d I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.					

*8e I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.	○	○	○	○	○
8f I find satisfaction in deliberating hard and for long hours.	○	○	○	○	○
*8g I only think as hard as I have to.	○	○	○	○	○
*8h I prefer to think about small, daily projects rather than long term ones.	○	○	○	○	○
*8i I like tasks that require little thought once I've learned them.	○	○	○	○	○

Q8. For each of the statements below, please indicate to what extent you agree?

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
8j The idea of relying on thought to make my way to the top appeals to me.	○	○	○	○	○
8k I would prefer complex to simple problems.	○	○	○	○	○
*8l Learning new ways to think does not excite me very much.	○	○	○	○	○
8m I prefer my life to be filled with puzzles that I must solve.	○	○	○	○	○
8n The notion of thinking abstractly is appealing to me.	○	○	○	○	○
8o I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	○	○	○	○	○
*8p I feel relief rather than satisfaction after completing a task that required a lot of mental effort.	○	○	○	○	○
*8q It's enough for me that something gets the job done; I do not care how or why it works.	○	○	○	○	○
8r I usually end up deliberating about issues even when they do not affect me personally.	○	○	○	○	○

Q9. Below is a list of statements to determine personality characteristics. There is no right or wrong answer; please provide as honest and accurate answers as it typically applies to YOUR personality.

For each of the statements below, please indicate to what extent you agree?

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree

*9a If I reflect on my past, I see that I tend to be afraid of feeling emotions.					
9b I feel that I need to experience strong emotions regularly.					
9c Emotions help people to get along in life.					
*9d I find strong emotions overwhelming and therefore try to avoid them.					
9e I think that it is important to explore my feelings.					
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
*9f I would prefer not to experience either the lows or highs of emotion.					
*9g I do not know how to handle my emotions, so I avoid them.					
9h It is important for me to be in touch with my feelings.					
9i It is important for me to know how others are feeling.					
*9j Emotions are dangerous—they tend to get me into situations that I would rather avoid.					

SECTION 4: CONTENT PREFERENCE ON SNS

The following two questions contain a list of statements about the style or manner that you engage with various types of content on social network sites.

Q10. Please rate how frequently you typically do each of the following activities on the social network sites that you use.

	Never	Rarely	Sometimes	Usually	Always
10a I enjoy reading longer, descriptive posts or articles on social network sites					
10b I tend to click onto links or expand posts on social network sites in order to read more					
*10c I prefer posts or articles on social network sites that do not require a lot of reading					
*10d I struggle to find the right words when I want to post something on social network sites					

10e I share or forward posts or articles on social network sites that tend to be longer and quite descriptive	○	○	○	○	○
*10f I just read the headline, caption or first few words rather than the entire post or article on social network sites	○	○	○	○	○

Q11. Please rate how frequently you typically do each of the following activities on the social network sites that you use.

	Never	Rarely	Sometimes	Usually	Always
11a I enjoy posting original photos or videos that I have taken or created on social network sites	○	○	○	○	○
11b I spend a lot of time editing photos or videos before posting them on social network sites	○	○	○	○	○
*11c I dislike sharing or forwarding photos or videos that I have found on social network sites	○	○	○	○	○
11d There are times when I like to review photos or videos that I have posted on social network sites	○	○	○	○	○
11e I tend to skim over posts or articles on social network sites and rather look at the photos or videos included	○	○	○	○	○
*11f I prefer posts or articles on social network sites that do not include many photos or videos	○	○	○	○	○

SECTION 5: DEMOGRAPHICS

Q12. What is your gender?

- ○ Male
- ○ Female

Q13. What is your ethnic group?

- ○ Black/African
- ○ White
- ○

Coloured

- Indian/Asian
- Other

Q14. What is your current work status?

- Working full time
- Working part time/Freelancing
- Retired
- Unemployed
- Housewife /househusband

Q15a. Where do you currently study?

- University of the Western Cape (UWC)
- University of the Witwatersrand (MAIN CAMPUS)
- Wits Business School
- Vega School of Brand Leadership
- Cornerstone Institute
- Other
- Not applicable

Q15b. Which degree or programme are you currently studying?

- Bachelor's degree / Undergraduate studies
- Post-graduate diploma / Honour's degree
- Master's degree / MBA

- PhD
- Other
- Not applicable

Q15c. What faculty are you in?

- Commerce, Law and Management
- Engineering & the Built Environment
- Health Science
- Humanities/Arts
- Science
- Other
- Not applicable

Q15d. Please indicate whether you are studying full time or part time?

- Studying full time
- Studying part time
- Not applicable

Q16. What is your highest level of education?

- No formal education
- Primary school
- Secondary school/matriculated
- Undergraduate studies (university/college/ technikon)
- Postgraduate studies (e.g. Honours, Masters)
-

- Other diploma or certificate

Q17. Which province do you reside in?

- Eastern Cape
- Free State
- Gauteng
- KwaZulu-Natal
- Limpopo
- Mpumalanga
- Northern Cape
- North West
- Western Cape

Q18. For the statistical purposes of this study, please indicate what the total monthly income of your household is?

- Less than R10 000
- R10 000 – R24 999
- R25 000 – R49 999
- R50 000 – R99 999
- R100 000 – R499 999
- Over R500 000
- Don't know/Prefer not to say

APPENDIX D – Correlation analysis for measurement validity

Table 19: Inter-construct correlation matrix – Verbal content preference

	Q10a	Q10b	Q10c	Q10d	Q10e	Q10f
Q10a	-					
Q10b	.609**	-				
Q10c	.465**	.333**	-			
Q10d	-.029	.042	.103	-		
Q10e	.366**	.389**	.169**	-.046	-	
Q10f	.450**	.404**	.502**	.097	.220**	-

Note: Q10a-Q10f = Items for Verbal content preference

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed)

Table 20: Inter-construct correlation matrix – Visual content preference

	Q11a	Q11b	Q11c	Q11d	Q11e	Q11f
Q11a	-					
Q11b	.489**	-				
Q11c	.195**	.039	-			
Q11d	.429**	.450**	.135*	-		
Q11e	.034	.047	-.097	.133*	-	
Q11f	.276**	.132*	.248**	.199**	-.018	-

Note: Q11a-Q11f = Items for Visual content preference

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed)

Table 21: Bivariate correlations of verbal and visual content preference - Individual Items

	Q10a	Q10b	Q10c	Q10d	Q10e	Q10f
Q11a	.093	.058	-.041	-.004	.144*	.077
Q11b	.106	.118*	.006	-.092	.117*	-.007
Q11c	-.010	.018	-.011	.081	.212**	.115*
Q11d	.065	.104	-.086	-.103	.147*	-.023
Q11e	-.067	-.089	-.135*	-.091	-.023	-.227**
Q11f	-.157**	-.034	-.102	.019	-.042	-.048

Note: Q10a-Q10f = Items for Verbal content preference; Q11a-Q11f = Items for Visual content preference

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed)

APPENDIX E – Reliability results of main data collection

Table 22: Reliability analysis for need for cognition (NFC) scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q8a	63.085	76.574	.400	.287	.841
Q8b	63.319	72.980	.611	.502	.831
Q8c_Rev	63.295	73.229	.550	.396	.834
Q8d_Rev	63.193	72.068	.644	.533	.829
Q8e_Rev	63.251	73.413	.600	.443	.832
Q8f	64.078	75.317	.361	.229	.843
Q8g_Rev	64.003	72.820	.477	.277	.837
Q8h_Rev	63.841	74.971	.376	.277	.842
Q8i_Rev	64.010	72.520	.464	.335	.838
Q8j	63.278	74.548	.499	.302	.836
Q8k	63.685	73.972	.493	.319	.836
Q8l_Rev	63.275	75.438	.420	.253	.840
Q8m	63.959	74.012	.489	.340	.836
Q8n	63.546	75.711	.454	.287	.838
Q8o	63.685	75.808	.354	.220	.843
Q8p_Rev	64.292	73.847	.367	.235	.844
Q8q_Rev	63.488	74.625	.456	.289	.838
Q8r	63.769	79.817	.115	.160	.854

Table 23: Reliability analysis for need for affect (NFA) scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q9a_Rev	32.023	22.762	.415	.294	.739
Q9b	32.605	26.471	.097	.108	.782
Q9c	31.786	24.961	.322	.173	.749
Q9d_Rev	32.161	22.235	.510	.333	.723
Q9e	31.424	23.387	.586	.391	.718
Q9f_Rev	31.924	22.281	.555	.377	.716
Q9g_Rev	31.470	22.864	.555	.373	.718
Q9h	31.457	23.404	.557	.386	.721
Q9i	31.408	25.252	.316	.151	.750
Q9j_Rev	31.937	23.201	.382	.208	.744

Table 24: Reliability analysis for verbal content preference scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q10a	14.891	9.490	.595	.482	.569
Q10b	14.349	9.858	.571	.424	.582
Q10c_Rev	15.043	10.259	.490	.335	.610
Q10d_Rev	14.345	12.702	.044	.031	.759
Q10e	15.283	10.718	.327	.183	.666
Q10f_Rev	14.674	10.201	.530	.340	.598

Table 25: Reliability analysis for visual content preference scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q11a	14.705	8.893	.522	.332	.426
Q11b	15.456	9.782	.412	.314	.486
Q11c_Rev	14.315	11.105	.167	.095	.604
Q11d	14.633	9.450	.491	.285	.450
Q11e	14.744	12.974	.030	.032	.630
Q11f_Rev	14.049	11.159	.294	.118	.541

APPENDIX F – Scatterplots of relationships between personality and content preference

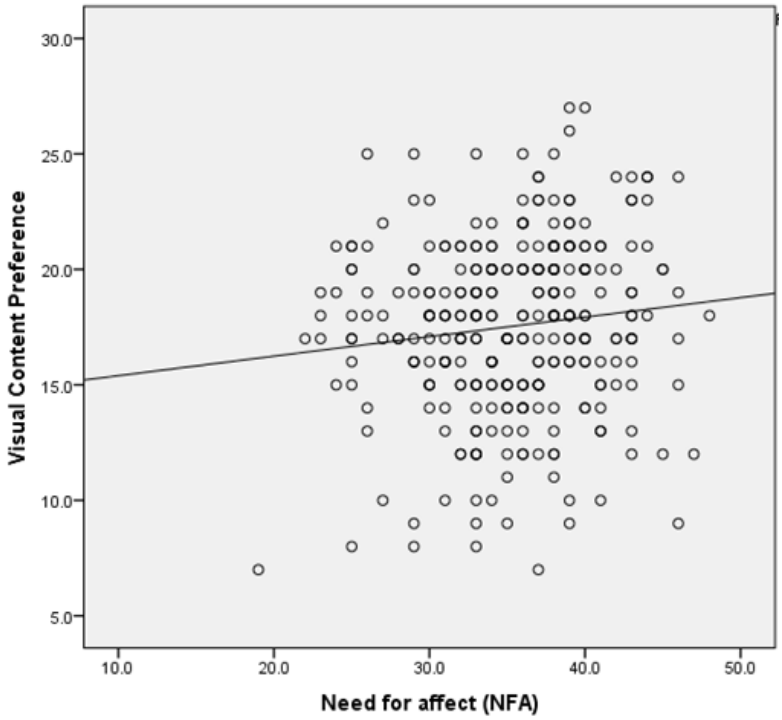

Figure 13: Scatterplot of need for affect and visual content preference (Hypothesis 1)

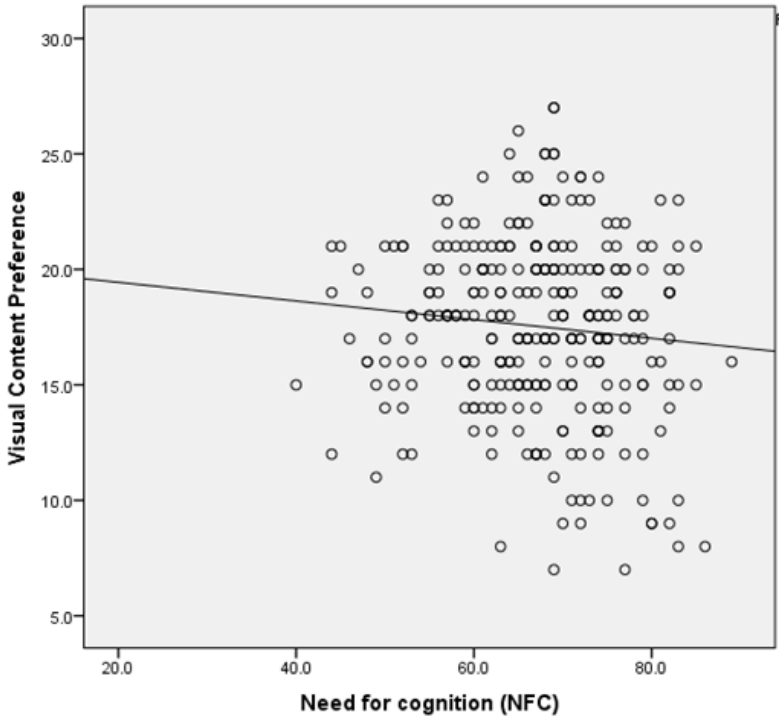

Figure 14: Scatterplot of need for cognition and visual content preference (Hypothesis 2)

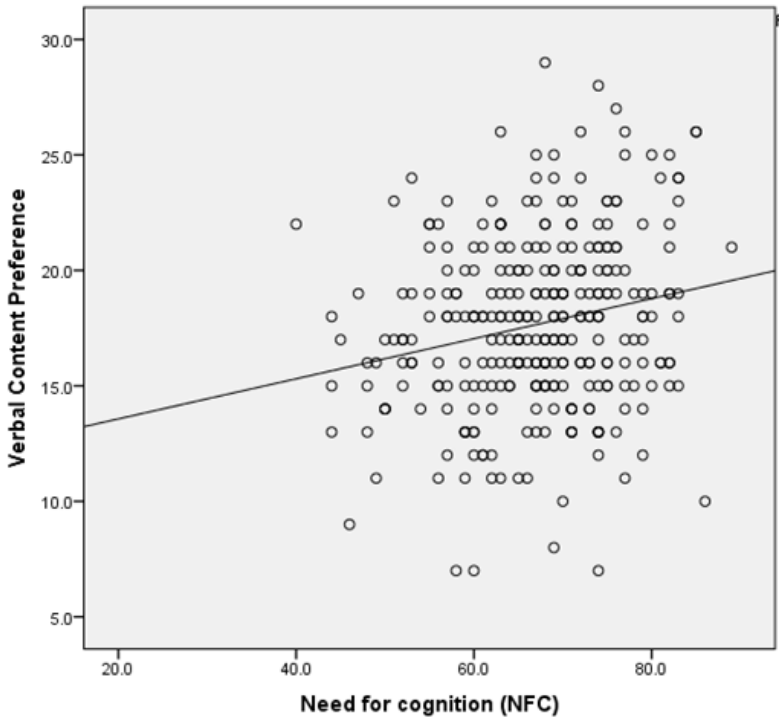

Figure 15: Scatterplot of need for cognition and verbal content preference (Hypothesis 3)

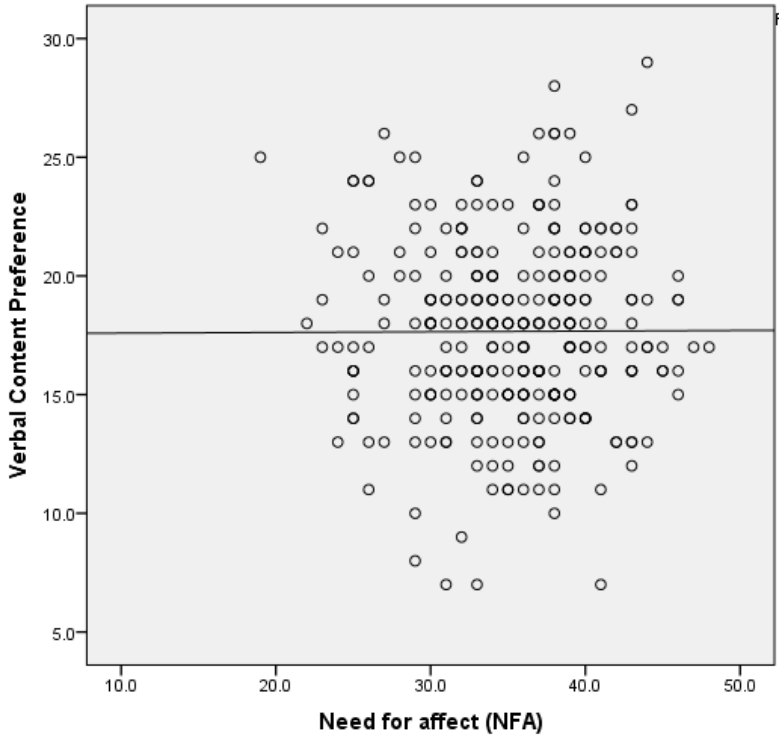

Figure 16: Scatterplot of need for affect and verbal content preference (Hypothesis 4)

APPENDIX G - Means and SDs for key research variables, according to SNS usage

Table 26: Means and SDs for key research variables, according to Facebook usage

	Total (n=307)		Facebook Users (n=267)		Facebook Non-users (n=39)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	**66.67***	9.07	**70.21***	9.13
Need for affect (NFA)	35.36	5.33	35.40	5.34	34.51	5.37
Verbal content preference	17.72	3.78	17.70	3.81	17.41	3.82
Visual content preference	17.58	3.74	**17.88****	3.59	**15.31****	4.31

Note: n=valid cases; SD=standard deviation of scale; Figures in **bold** indicate significant differences between users and non-users. *p< .05 (2-tailed); **p< .01 (2-tailed)

Table 27: Means and SDs for key research variables, according to Twitter usage

	Total (n=307)		Twitter Users (n=148)		Twitter Non-users (n=158)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	67.94	9.70	66.26	8.51
Need for affect (NFA)	35.36	5.33	35.06	5.66	35.53	5.05
Verbal content preference	17.72	3.78	18.06	3.49	17.30	4.06
Visual content preference	17.58	3.74	17.74	3.99	17.35	3.58

Note: n=valid cases; SD=standard deviation of scale

Table 28: Means and SDs for key research variables, according to Instagram usage

	Total (n=307)		Instagram Users (n=166)		Instagram Non-users (n=141)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	66.30	9.36	68.06	8.80
Need for affect (NFA)	35.36	5.33	35.15	5.64	35.48	4.98
Verbal content preference	17.72	3.78	17.78	3.43	17.53	4.21
Visual content preference	17.58	3.74	**18.84****	3.44	**16.01****	3.58

Note: n=valid cases; SD=standard deviation of scale; Figures in **bold** indicate significant differences between users and non-users. *p< .05 (2-tailed); **p< .01 (2-tailed)

Table 29: Means and SDs for key research variables, according to Pinterest usage

	Total (n=307)		Pinterest Users (n=90)		Pinterest Non-users (n=216)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	68.60	8.95	66.48	9.18
Need for affect (NFA)	35.36	5.33	35.62	5.82	35.22	5.11
Verbal content preference	17.72	3.78	18.21	3.31	17.44	3.98
Visual content preference	17.58	3.74	17.84	3.68	17.40	3.82

Note: n=valid cases; SD=standard deviation of scale

Table 30: Means and SDs for key research variables, according to LinkedIn usage

	Total (n=307)		LinkedIn Users (n=187)		LinkedIn Non-users (n=119)	
Variable	Mean	SD	Mean	SD	Mean	SD
Need for cognition (NFC)	67.36	9.10	**68.55****	8.98	**64.87****	8.98
Need for affect (NFA)	35.36	5.33	34.71	5.44	36.19	5.07
Verbal content preference	17.72	3.78	17.85	3.70	17.39	3.97
Visual content preference	17.58	3.74	**17.03****	3.75	**18.36****	3.70

Note: n=valid cases; SD=standard deviation of scale; Figures in **bold** indicate significant differences between users and non-users. *p< .05 (2-tailed); **p< .01 (2-tailed)

APPENDIX H – Multiple comparisons of means for content preference, according to most preferred SNS

Table 31: Multiple comparisons of means for visual content preference, according to most preferred SNS

(I) Q7aMostpreferredSNS	(J) Q7aMostpreferredSNS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Lower Bound
Facebook	Twitter	1.7936*	.6435	.006	.527	3.060
	Instagram	-1.8292*	.5394	.001	-2.891	-.768
	Pinterest	2.6073*	.8876	.004	.861	4.354
	LinkedIn	3.3603*	.6935	.000	1.996	4.725
	Don’t know	1.5228	.9122	.096	-.272	3.318
Twitter	Facebook	-1.7936*	.6435	.006	-3.060	-.527
	Instagram	-3.6228*	.7386	.000	-5.076	-2.169
	Pinterest	.8137	1.0210	.426	-1.195	2.823
	LinkedIn	1.5667	.8577	.069	-.121	3.254
	Don’t know	-.2708	1.0425	.795	-2.322	1.781
Instagram	Facebook	1.8292*	.5394	.001	.768	2.891
	Twitter	3.6228*	.7386	.000	2.169	5.076
	Pinterest	4.4365*	.9588	.000	2.550	6.323
	LinkedIn	5.1895*	.7826	.000	3.649	6.729
	Don’t know	3.3520*	.9816	.001	1.420	5.284
Pinterest	Facebook	-2.6073*	.8876	.004	-4.354	-.861
	Twitter	-.8137	1.0210	.426	-2.823	1.195
	Instagram	-4.4365*	.9588	.000	-6.323	-2.550
	LinkedIn	.7529	1.0532	.475	-1.320	2.826
	Don’t know	-1.0846	1.2085	.370	-3.463	1.294
LinkedIn	Facebook	-3.3603*	.6935	.000	-4.725	-1.996
	Twitter	-1.5667	.8577	.069	-3.254	.121
	Instagram	-5.1895*	.7826	.000	-6.729	-3.649
	Pinterest	-.7529	1.0532	.475	-2.826	1.320
	Don’t know	-1.8375	1.0741	.088	-3.951	.276
Don’t know	Facebook	-1.5228	.9122	.096	-3.318	.272
	Twitter	.2708	1.0425	.795	-1.781	2.322
	Instagram	-3.3520*	.9816	.001	-5.284	-1.420
	Pinterest	1.0846	1.2085	.370	-1.294	3.463
	LinkedIn	1.8375	1.0741	.088	-.276	3.951

Table 32: Multiple comparisons of means for verbal content preference, according to most preferred SNS

(I) Q7aMostpreferredSNS	(J) Q7aMostpreferredSNS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Lower Bound
Facebook	Twitter	-.2290	.7063	.746	-1.619	-1.619
	Instagram	.2403	.5920	.685	-.925	-.925
	Pinterest	-.0280	.9742	.977	-1.945	-1.945
	LinkedIn	1.1543	.7612	.130	-.344	-.344
	Don’t know	1.2293	1.0012	.220	-.741	-.741
Twitter	Facebook	.2290	.7063	.746	-1.161	-1.161
	Instagram	.4693	.8107	.563	-1.126	-1.126
	Pinterest	.2010	1.1206	.858	-2.004	-2.004
	LinkedIn	1.3833	.9414	.143	-.469	-.469
	Don’t know	1.4583	1.1442	.203	-.793	-.793
Instagram	Facebook	-.2403	.5920	.685	-1.405	-1.405
	Twitter	-.4693	.8107	.563	-2.065	-2.065
	Pinterest	-.2683	1.0523	.799	-2.339	-2.339
	LinkedIn	.9140	.8589	.288	-.776	-.776
	Don’t know	.9890	1.0774	.359	-1.131	-1.131
Pinterest	Facebook	.0280	.9742	.977	-1.889	-1.889
	Twitter	-.2010	1.1206	.858	-2.406	-2.406
	Instagram	.2683	1.0523	.799	-1.803	-1.803
	LinkedIn	1.1824	1.1560	.307	-1.093	-1.093
	Don’t know	1.2574	1.3264	.344	-1.353	-1.353
LinkedIn	Facebook	-1.1543	.7612	.130	-2.652	-2.652
	Twitter	-1.3833	.9414	.143	-3.236	-3.236
	Instagram	-.9140	.8589	.288	-2.604	-2.604
	Pinterest	-1.1824	1.1560	.307	-3.457	-3.457
	Don’t know	.0750	1.1789	.949	-2.245	-2.245
Don’t know	Facebook	-1.2293	1.0012	.220	-3.200	-3.200
	Twitter	-1.4583	1.1442	.203	-3.710	-3.710
	Instagram	-.9890	1.0774	.359	-3.109	-3.109
	Pinterest	-1.2574	1.3264	.344	-3.868	-3.868
	LinkedIn	-.0750	1.1789	.949	-2.395	-2.395